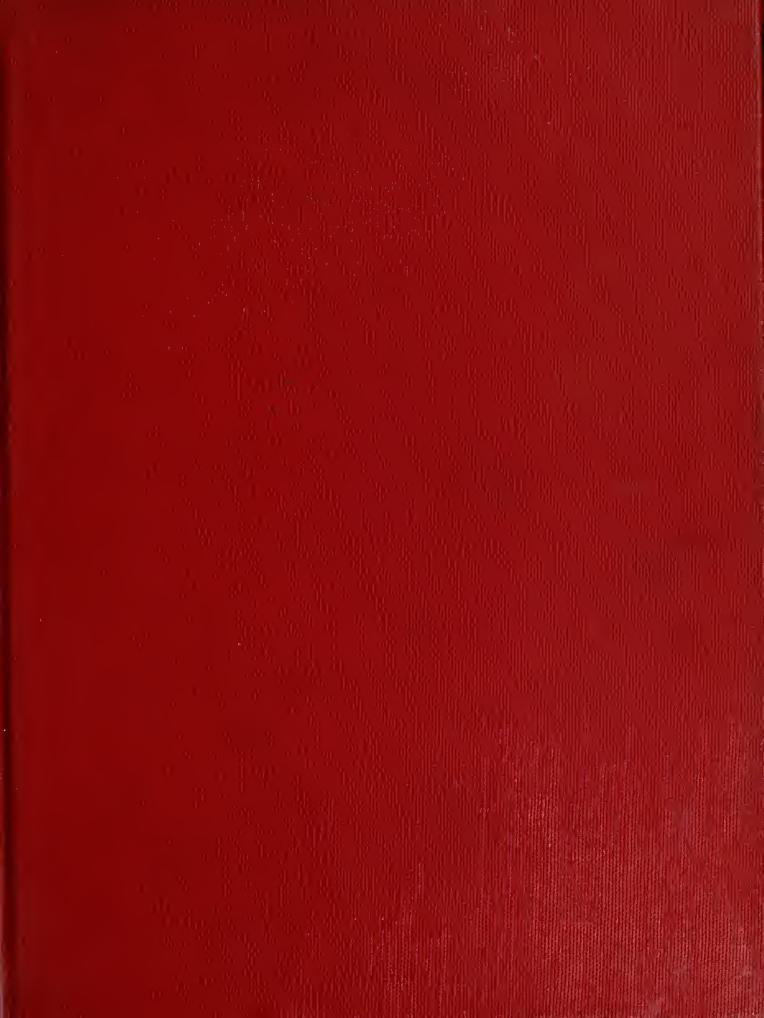
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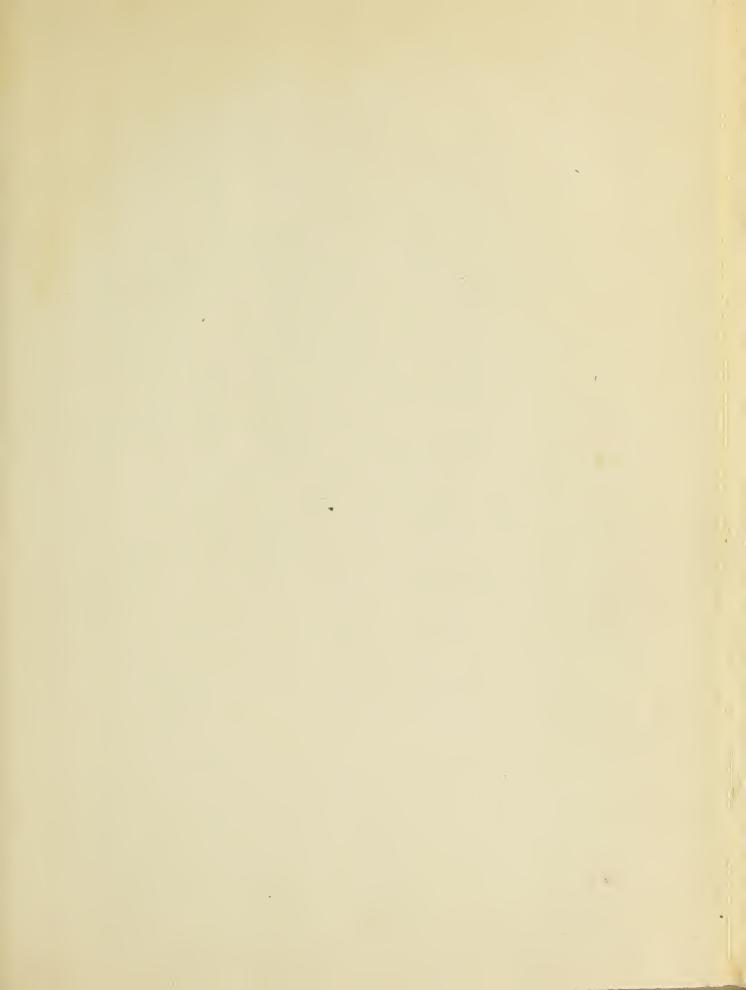
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Bibliographical Contributions

REFERENCES

ON THE

GREAT LAKES-SAINT LAWRENCE WATERWAY PROJECT

By

Everett E. Edwards, Agricultural Economist Bureau of Agricultural Economics Edith J. Lowe, Senior Clerk Bureau of Agricultural Economics



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PREFACE

A list entitled "References on the Great Lakes-St. Lawrence River Project" (53 p., typewritten) was prepared in November 1932 to meet a number of requests referred to the Bureau of Agricultural Economics. Wesley Edwards, then of the Harvard Graduate School of Business Administration, assisted in its preparation. The continued interest of the general public in the subject has prompted the compilation of the present bibliography.

To insure completeness, the card catalogs of the Library of Congress and the Library of the U. S. Department of Agriculture have been systematically consulted, and the following indexes have been used; Agricultural Index, 1916-April 1936; Grace Gardner Griffin's Writings on American History, 1906-1931; Industrial Arts Index, 1913-May 1936; International Index to Periodicals, 1920-March 1936; Poole's Index to Periodical Literature, 1882-1906; Readers' Guide to Periodical Literature, 1900-May 1936; and Readers' Guide to Periodical Literature Supplement, 1907-1919.

Edith J. Lowe did much of the work incident to the expansion of the list of 1932 into the present bibliography and also prepared the index. Anne C. Chew assisted with the editing.

Everett E. Edwards Agricultural Economist Bureau of Agricultural Economics

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Map of "the world's greatest grain flow," facing p. 26.

ELMES, ROBERT W. Continued

Comments:

"The Chamber has never taken official action, either for or against the proposal for a St. Lawrence Shipway. The analysis by Mr. Elmes is presented as an entirely new treatment of the economics of the Great Lakes grain movement to the Seaboard for export, as he has gathered together an array of statistics and factual matters that make this a most important contribution to the further study of the St. Lawrence proposal."— p. 2.

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2, From the mountains. [4] p., map. October 1919.

3, The rate handicap. [4] p. November 1919.

4, The box car's turn around. The problem of congestion, by O. P. B. Jacobson. [4] p. January 1920.

5, An American Mediterranean. [2] p. February 1920.

- 6, The chief cause of congestion, by Julius H. Barnes. There congestion begins, by H. H. Merrick. [4] p., diagr. March 1920.
- 7, Food production— the prime problem, by Herbert Hoover. From an address before the Western Society of Engineers, Chicago, Feb. 28, 1920. [4] p. March 1920.

8, At the portage. [4] p. April 1920.

9, Are railroads opposed? Statements by Samuel Rea, C. H. Markham and Howard Elliott. [4] p. May 1920.

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17, Where do you get your facts? Letter from Robert R. Dunn to Senator W. H. Gibbs. [2] p. February 1922.

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- 38, Typical misleading propaganda by opponents of the St. Lawrence seaway analyzed and exposed. 8 p. December 1927.

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28 p.

- 48, The Great Lakes-St. Lawrence waterway— a major impending project, an address by Schator T. J. Walsh of Montana before the 25th convention of the National Rivers and Harbors Cong., Dec. 11, 1929.
- 49, A major impending project; the Great Lakes-St. Lawrence waterway. An address by Thomas J. Walsh. 15 p. Dec. 11, 1929. January 1930.
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- 51, Concerning the seaway and the treaty, by Charles J. McManus. 21 p. November 1932.
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The question of differentials, p. 53-64.

Need for economical transportation, p. 65-87.

Cost of operating vessels between New England ports and the Great Lakes, p. 88-97.

Probable water rates between the Great Lakes and New England, p. 98-105.

Transportation of grain and flour, p. 106-130.

Other products available for water transportation, p. 131-151.

HARRIMAN, HENRY INGRAHAM. Continued.

Comments:

"Since the construction of this seaway is now actively under consideration by the two governments, it has seemed to the author that a careful analysis should be made of its probable effect upon the commerce of Boston and other New England ports, and a determination of its advantages or disadvantages to New England's industry."

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The saving by avoidance of reloading, transfer, storage and insurance charges, p. 40-58.

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Favorable influence of the seaway on New England, p. 68-75. The Great Lakes-St. Lawrence seaway will have justifiable use, p. 76-90.

The kind of ships that will use the seaway, and the types that will not, p. 91-104.

Sectional objections to the St. Lawrence seaway in the United States and Canada, p. 105-124.

Hydro-electric water power incidental to the navigation development, p. 125-139.

That which is already done towards seaway completion and that which remains to be done, p. 140-151.

The Great Lakes-St. Lawrence deep waterway treaty of July 18, 1932, p. 152-163.

Chicago diversion, p. 164-174.

Cost in detail of the Great Lakes-St. Lawrence seaway, p. 175-185.

The seaway and the railroads, p. 186-195.

Ports and port districts, p. 196-207.

The United States should cooperate with Canada's present disposition of willing compliance, p. 208-223.

Comments:

Published in January 1934, early in the session of the United States Senate which failed to ratify the St. Lawrence Treaty, this book was apparently intended to influence opinion by marshalling all the arguments in favor of the treaty. From that point of view it is a useful synthesis for the general reader, but it offers nothing new and cannot be relied on in detail.

JOINT NEW ENGLAND ST. LAWRENCE WATERWAY COMMITTEE. Report of the Joint New England Committee on the St. Lawrence seaway project. A new route to old markets. 30 p. Washington, D. C., Great Lakes-St. Lawrence Tidewater Association. [1927].

(83)

Reviews:

Canad. Engin. 53:124 (July 12, 1927).

LOWRY, ERNEST A. The facts about public ownership, Ontario's costly mistake. 16 p. [Toronto, Ontario Power Digest]. 1934.

(84)

MACELWEE, ROY SAMUEL, and ALFRED H. RITTER. Economic aspects of the Great Lakes-St. Lawrence ship channel. 291 p., maps. New York, Ronald Press Co. 1921.

(85)

Contents to be noted:

Scope of the investigation, p. 7-11.

Relation of transportation to the economic life of the nation, p. 12-15.

The transportation shortage, in 16-30.

The remedy for the defects in our transportation system, p. 31-34.

The handicap of inadequate terminal facilities, p. 35-53.

Character of water transportation needed for the commerce of the northwest, p. 54-64.

Cost of transportation between upper lake ports and Liverpool, p. 65-80.

The areas commercially tributary to the Great Lakes-St. Lawrence waterway, p. 81-112.

Production of the tributary area, p. 113-149.

Brief history of improvements for navigation on the Great Lakes, p. 150-156.

Benefits from navigation improvements on the Great Lakes, p. 157-161.

Comparison of navigation facilities on the Great Lakes with those of ocean ports, p. 162-165.

Character of navigation to be provided on the St. Lawrence, p. 166-172.

Comparison of the St. Lawrence with other ocean routes, p. 173-176.

Navigation conditions on the St. Lawrence route, p. 177-194. Depths required for the accomodation of vessels engaged in maritime trade, p. 195-204.

Types and sizes of vessels which carry the world's commerce, p. 205-223.

Study of vessels passing through the Panama Canal between July 1, 1919, and June 30, 1920, p. 224-233.

Will ocean vessels seek inland ports? p. 234-236.

The problem of return loads, p. 237-241.

The commerce of the Great Lakes, p. 242-247.

Volume of commerce affected by the Great Lakes-St. Lawrence waterway, p. 248-252.

The grain movement, p. 253-267.

Other commodity movements, p. 268-281.

Shipbuilding on the Great Lates, p. 282-283.

Water power, p. 284-286.

Conclusions, p. 287-291.

Comments:

"In this analysis of the economic aspects of the Great Lakes-St. Lawrence Ship Channel, the authors have endeavored to present conservatively the more important local and national advinte, es to be gained from opening the Great Lakes to ocean traffic."— Foreword. MACELWEE, ROY SAMUEL, and ALFRED H. RITTER. Continued. Reviews:

W. T. Jackman, in Canad. Hist. Rev. 2:398-401 (December 1921). Great Lakes-St. Lawrence Tidewater Assoc. Bull. 47, 28 p.

MCGILL UNIVERSITY, MONTREAL. DEPARTMENT OF COMMERCE. National problems of Canada; ocean and inland water transport. (McGill Univ. Econ. Studies, 2). 52 p., illus. Toronto, Macmillan Co. of Canada. [1925].

(86)

Contents to be noted:.

The St. Lawrence waterways today, changes in movement of wheat, and the Chicago Drainage Canal, p. 49-52.

Comments:

A monograph written by members of the graduating class in the Commerce course at McGill University.

MISSISSIPPI VALLEY ASSOCIATION. Argument in opposition to the pending St. Lawrence seaway treaty, Jan. 1935. 17 p. St. Louis, Mo. 1935.

(87)

The why every state in the Mississippi Valley should oppose the ratification of the St. Lawrence waterway treaty in its present form. January 1934. 8 p. St. Louis, Mo. 1934.

(88)

MOULTON, HAROLD GLENN, CHARLES S. MORGAN, and ADAH L. LEE. The St. Lawrence navigation and power project. (Institute of Economics of the Brookings Institution). 683 p., maps. Washington, D. C., Brookings Institution. 1929. Contents to be noted:

(89)

The movement for a St. Lawrence deep waterway (arguments for the St. Lawrence project; divergent interests; history and present status of the project,— the International Joint Commission, the Joint Board of Engineers, the St. Lawrence Commission, the Canadian National Advisory

Committee), p. 3-24.
The navigation project (description of the project; comparison of present routes and the proposed route), p. 25-34.

The depth of channel required (the 25-foot project; the 27-foot project; would a depth of 30 feet provide a first-class route?), p. 35-60.

The ship owner's problem (the physical character of the route; the character of modern ocean shipping service; would first-class cargo liners enter the lakes if a 33-foot route were provided?; would any ocean carriers enter the lakes?), p. 61-84.

MOULTON, HAROLD GLENN, CHARLES S. MORGAN, and ADAH L. LEE. Continued.

The cost of a 27-foot waterway (capital investment; annual charges), p. 85-103.

The available traffic (what is involved in estimating traffic?;

the volume of potential traffic), p. 104-114.

The St. Lawrence waterway and agricultural traffic (livestock products; grain traffic from the United States; the Canadian side of the picture; probable reduction in freight rates; indirect benefits to the grain growers), contributed by Edwin G. Nourse, p. 115-157.

The waterway and traffic congestion (railroad transportation conditions, in the United States, - in Canada; the St. Lawrence as an agency for traffic relief; a comparison of the traffic capacity of the St. Lawrence and a freight

railway), p. 158-181.

Relation to railway rate control (United States, - the waterway as a regulator of rail rates, - relation of the waterway to the financial condition of the railroads; Canada, - relation to Canadian railway rates, - relation to financial conditions of Canadian-railroads), p. 182-203.

The St. Lawrence water-pow r project (the proposed power development; market possibilities in the United States; the rotential revenue to the United States government; Canada's interest in the St. Lawrence power), p. 204-227.

Summary and conclusions, p. 228-240.

Correspondence between United States and Canadian governments, p. 243-265.

Schedule of sailings in North Atlantic trades, p. 266-277. Appraisal of traffic analyses made by others, p. 278-290. Forest products, p. 291-352.

Iron and steel and manufacturers thereof, p. 353-390.

Machinery and vehicles, p. 391-449.

Ores and metals, p. 450-469.

Non-metallic minerals, p. 470-548.

Miscellaneous raw materials and manufactures, p. 549-594.

Imported food products, p. 595-622.

The development and the utilization of the power of the St.

Lawrence River in the international section, p. 623-672.

Reviews:

George W. Brown, in Canad. Hist. Rev. 11:76-77 (March 1930).

Morris Llewellyn Cooke, in New Republic 64:44-46 (Aug. 27, 1930), with Moulton's reply, p. 46-49, and Cooke's rebuttal, p. 49. John H. Gray, in Amer. Econ. Rev. 20:726-729 (December 1930). Hubert F. Havlik, in Jour. Land & Pub. Utility Econ. 6:330-331 (August 1931). Philip W. Henry, in Geogr. Rev. 20:344-346 (April 1930). Philip W. Henry, with reply by Moulton, in New Repub. 65:329-330 (Feb. 4, 1931). Criticism by Hugh J. Hughes of Dr. E. G. Nourse's chapter, "Agricultural Traffic

MOULTON, HAROLD GLENN, CHARLES S. MORGAN, and ADAH L. LEE. Continued. and the St. Lawrence Seaway; Great Lakes-St. Lawrence Tidewater Assoc. Bull. 45, 12 p. R. S. McElwee, "Dr. Moulton and the St. Lawrence Seaway," Great Lakes-St. Lawrence Tidewater Assoc. Bull. 47, 28 p. "How Does an 'Objective Economist'?" Great Lakes-St. Lawrence Tidewater Assoc. Bull. 42, 8 p. "Potential Traffic," Great Lakes-St. Lawrence Tidewater Assoc. Bull. 44, 4 p. Lesslie R. Thomson, in Jour. Polit. Econ. 38:86-107 (February 1930), with reply in 38:345-353 (June 1930), and rejoinder by Thomson, 38:479-482 (August 1930). Barron's 12 (34):8 (Aug. 22, 1932). New Repub. 59:300-302 (Aug. 7, 1929). Railway Age 87:241-245 (July 27, 1929).

MUNGER, THOMAS LAURENCE. Detroit and world-trade; a survey of the City's present and potential foreign trade and seaboard traffic and the facilities therefor, with special reference to the proposed St. Lawrence deep waterway to the sea. 118 p., illus., maps. [Detroit] Detroit Board of Commerce. 1920. Comments:

Compilations by Frank Howard Evans, statistician.

A brief of Detroit's case in support of the proposed Great Lakes-St. Lawrence deep waterway to the sea for presentation to the International Joint Commission. (90)

"An attempt will be made to picture Detroit as an industrial, commercial and transportation center, for the purpose of showing the vital need that exists, and that will exist in even greater degree in future, for better transportation facilities, and consequently the extreme desirability and feasibility from an economic standpoint of the proposed Great Lakes-St. Lawrence deep waterway to the sea. It will be shown what new production, now restricted, will be made possible; what resources, now latent, may be developed, and what traffic, now strangled, will be relieved."— Foreword.

NATIONAL RIVERS AND HARBORS CONGRESS. Joint debate on the St. Lawrence ship canal. 38 p. Washington, D. C. Mar. 1, 1922. (91)
Comments:

Affirmative, H. H. Merrick and Henry J. Allen. Negative, Nathan L. Miller.

Governor Miller's speech and digests of the two affirmative speeches also printed in Greater New York 11 (11):1-11 (Mar. 13, 1922). Governor Allen's speech was published separately by the Great Lakes-St. Lawrence Tidewater Assoc.

Excerpts from Governor Allen's speech under the title, "St. Lawrence Ship Canal," in Citation 3, p. 42-46.

Excerpts from Governor Miller's speech under the title, "St. Lawrence River Ship Canal," in Citation 3, p. 52-65.

NATIONAL RIVERS AND HARBORS CONGRESS. The St. Lawrence route; a national undertaking. Discussion 15th annual convention, Washington, D. C., Dec. 10, 1919. 16 p. [Duluth, Printed for Great Lakes-St. Lawrence Tidewater Assoc. 1919].	(92)
NEW YORK. CHAMBER OF COMMERCE OF THE STATE OF NEW YORK. Credit of State for electric power opposed. Resolution and report submitted at the regular monthly meeting held Dec. 6, 1934. [3] p. New York. 1934.	(93)
Government hydroelectric development on the St. Lawrence opposed. Resolutions and report submitted at the regular monthly meeting held Nov. 1, 1934. 6 p. New York. 1934.	(94)
Ratification of St. Lawrence treaty opposed. Resolutions and report submitted Oct. 5, 1933.[2] p. New York. 1933.	(95)
NEW YORK STATE WATERWAYS ASSOCIATION. The Saint Lawrence ship concle proposition; papers read before the meeting of the New York State Waterways Association at Buffalo. N. Y., November 11-12, 1920, by Hon. Lewis Nixon, Mr. Adam E. Cornelius, Hon. George Clinton, Mr. Frank S. Gardner, Mr. E. Platt Stratton, Hon. Merton E. Lewis. 94 p. [New York? 1920]. Contents to be noted: Report of Committee of Merchants' Association of New York, p. 87-94. Comments: The papers are also published in the Association's Annual Report (1920), 11.	(96)
[REDFIELD, WILLIAM C., WILLIAM L. SAUNDERS, and HERBERT HOOVER]. Lakes- to-ocean route. A national remedy for national needs. Testimony of William C. Redfield, William L. Saunders, Herbert Hoover before International Joint Commission, Oct. 20, 1921. 8 p. Dubuth, Great Lakes-St. Lawrence Tidewater Assoc. 1921.	(97)
RITTER, ALFRED HOTCHKISS. Transportation economics of the Great Lakes-St. Lawrence ship channel. 276 p., illus., maps. [Washington, D. C.] Great Lakes-St. Lawrence Tidewater Assoc. 1925. Contents to be noted: Practicability of the waterway for ocean vessels, p. 11-24. Dimensions of ocean vessels, p. 25-44.	(98)

RITTER, ALFRED HOTCHKISS. Continued.

Cost of operating ocean vessels to lake ports, p. 45-56. Feasible rates via the Great Lakes-St. Lawrence waterway, p. 57-70.

Territory tributary to Great Lakes-St. Lawrence ship channel, p. 71-76.

The traffic available for the waterway, p. 77-124.

Effect of the waterway upon the grain trade of the United States and Canada, p. 125-232.

The load factor, p. 233-245.

Present lakes-ocean traffic, 7. 249-253.

Influence of the Panama Canal on the interior, p. 254-261. Summary, p. 262-276.

Comments:

"Briefly summarized, the study shows that the waterway as proposed will be thoroughly practicable for ocean vessels."-p. 276.

World wheat markets; influence of transportation costs on the wheat trade of the United States. 24 p., maps.
[Duluth, Minn.] Great Lakes-St. Lawrence Tidewater Assoc. [1924].

Comments:

"The study shows that the proposed St. Lawrence ship channel would reduce freight rates on wheat from selected points in Minnesota, Iowa, Wisconsin, Illinois and Indiana, to a point actually lower than the current cost from the Argentine farm to Liverpool, and that it would reduce the cost of wheat raised in North Dakota, South Dakota and Missouri, to a level permitting competition with Argentina under any conditions likely to prevail....

"The importance of the improvement is not confined to the large savings in actual transportation costs, but perhaps its most significant aspect is the fact that it will reduce the total cost of transportation to foreign markets to a point which will permanently protect the ability of the American and Canadian wheat farmers to obtain profitable disposition of the surplus production in excess of domestic requirements."

ROOSEVELT, FRANKLIN DELANO. On our way. 300 p. New York, John Day Co. [1934].

Contents to be noted:

St. Lawrence treaty, p. 210-215.

(100)

(99)

STEPHENS. GEORGE WASHINGTON. The St. Lawrence waterway project; the story of the St. Lawrence River as an international highway for water-borne commerce. 460 p., illus. Montreal, London, New York, Louis Carrier & Co. [1930].

(101)

Contents to be noted:

Treaties, boundaries, waterways, 1713-1929, p. 17-49.

Transportation and communication, p. 51-83.

International aspects of arterial waterways, p. 85-94.

St. Lawrence waterway project, p. 95-145.

History of the negotiations of the St. Lawrence waterway project, 1832-1929, p. 147-250.

Canals of Canada and the United States, p. 251-307.

The Chicago Sanitary and Ship Canal, p. 309-320.

Alternate water routes to Europe, p. 321-332.

Power, p. 333-353.

Reflections, p. 355-394.

Appendices, p. 395-415.

Bibliography, p. 421-428.

Reviews:

George W. Brown, in Canad. Hist. Rev. 11:359-361 (December 1930). R. De Brisey, in Canad. Forum 10:419 (August 1930).

TOMBS, LAURENCE CHALMERS. National problems of Canada; the port of Montreal. (McGill Univ. econ. studies, 6). 178 p., illus., maps. Toronto, Macmillan Co. of Canada. 1926.

(102)

Contents to be noted:

The Great Lakes-St. Lawrence deeper waterway, p. 139-143. Hydro-electric power on the St. Lawrence, p. 143-145.

Comments:

A careful study of the history of the present importance of the port of Montreal, with a discussion of the recommendations for lengthening the shipping season, and an indication of the danger to the port by the diversion of the St. Lawrence.

WARNER, FAYETTE S. The future movement of iron ore and coal in relation to the St. Lawrence waterway. 195 p., illus., maps. Philadelphia, (103)Univ. Pa. Press. 1930.

Contents to be noted:

The potential importance of the St. Lawrence waterway to the inland production area of North America, p. 1-23.

Estimate of iron ore to be imported via the St. Lawrence, p. 24-98.

Coal exportation by way of the St. Lawrence, p. 99-158.

Conclusions, p. 159-162.

Appendix, p. 163-184. Bibliography, p. 185-187.

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WARNER, FAYETTE S. Continued.

Comments:

Thesis (Ph.D.), University of Pennsylvania, 1930.
"It is with the probable future traffic of the St. Lawrence Waterway that this study is concerned.

"It is confined primarily to the probable movement of iron ore and coal. Its chief purpose is to indicate that the movement of a large volume of mineral tonnages over this waterway may be anticipated. A large tonnage of foreign iron ore may be expected to move into the Lake Erie district to supplement the Lake Superior ores now being used, and at the same time a large tonnage of coal may be expected to move into export as a backhaul for the ships which bring in the foreign ore."— p. 5.

WISCONSIN. UNIVERSITY EXTENSION DIVISION. DEPARTMENT OF DEBATING AND PUBLIC DISCUSSION. Wisconsin and the Great Lakes-St.

Lawrence deep water route to the sea. Bull. 1136, 44 p.

Madison, Wis. October 1921.

(104)

Comments:

"A series of discussions by Harry Southoff... F. E. Mitchell... William George Bruce... C. P. Norgord... H. L. Russell."

WRIGHT, C. P. The St. Lawrence deep waterway; a Canadian appraisal.
450 p. Toronto, Macmillan Co. of Canada. 1935.

(105)

Comments:

The book is opposed to the present treaty for the deepening of the St. Lawrence waterway but its author thinks there "must be a strong presupposition in favour of a project that is planned to bring ocean shipping so far into the populous interior of the North American continent."

Reviews:

W. C. Keirstead, in Canad. Hist. Rev. 17:198-199 (June 1936).

ARTICLES

[ACRES, H. G.] Developing St. Lowrence River power. Canad. Engin. 53:583-585. Dec. 6, 1927.

(106)

Contents to be noted:

International feature of the proposed power and navigation project.

Advantages of the two-stage development.

Formation of ice and its effect in river.

Artificial control of Lake Ontario.

Canals between Lake St. Francis and Montreal.

Comments:

An account of an address on the "Possibility of Developing the St. Lawrence River Power" at a joint meeting of the Niagara Peninsula Branch of the Engineering Institute of Canada and other engineering societies at St. Catherines, Ont. The author is a consulting engineer.

ADAMS, ALTON DERMONT. Why the St. Lawrence waterway? Sci. Amer. 148:314-316, illus. June 1933.

(107)

Comments:

"This St. Lawrence treaty subverts general and commercial interests of both the Atlantic states and the Mississippi Valley, because it tends to prevent construction of a waterway large enough for the bulk freighters between Lake Ontario and the Hudson River, and because it also tends to prevent construction and operation of an adequate waterway from Lake Michigan to the Gulf of Mexico, one or both of which would be of greater importance to our people. Lack of these two waterways will ultimately cost the people of the United States billions of dollars in higher freight rates, and will divert much commerce from Atlantic ports to Canada."

AGRICULIURAL REVIEW. Improve the inland waterways. 18 (9):6-8, map. September 1925.

(108)

Comments:

American farm congress petitions President Cooliage to make project a national one.

Lakes-St. Lawrence waterway; report of special commission gives impetus to great navigation project. 20 (2):6-11, maps. February 1927.

(109)

AGRICULTURAL REVIEW. Continued.

Comments:

This article reprints Herbert Hoover's letter of transmittal to the President, gives the attitude of S. L. A. Taschereau, premier of Quebec, who opposes the project, and a reply challenging Taschereau's position by Frank H. Keefer, former Parliamentary Secretary of State for External Affairs for Canada.

The St. Lawrence waterway; Canadian and American governments getting together on a definite plan. 17 (3):7. March 1924. (110) Comments:

A brief summary of the events from 1892 to 1924.

river improvement campaign. 18 (11):10. November 1925. (111)

Comments:

"Dreams of revival of traffic on the Missouri River have taken tangible form as a result of the two-days' session of the Missouri River navigation conference at Kansas City... Good will and co-operation were expressed in relation to the St. Lawrence-Great Lakes waterway project."

AIKIN, J. ALEXANDER. The St. Lawrence waterway project. Queen's Quart. 30:53-65. July-September 1922. (112)

A discussion of the St. Lawrence deep waterway project from a decidedly critical and cautious point of view by a graduate of Queen's University, formerly editor of the Saskatchewan Phoenix, and a journalist in Montreal at the time the article was written.

The St. Lawrence waterway project. Queen's Quart. 39:
111-129. February 1932.

Comments:

"There are limitations to the advantages of the St. Lawrence route. It is doubtful if the deep waterway would fulfil the claims of its proponents for a reduction of five cents a bushel, or more, on through grain shipments. If the upper lakes fleet were to be strengthened by a number of fast motor ships for the run from Kingston-Prescott to Montreal it would appear that traffic could be handled at as low cost as with through freighters to Montreal. Under fair conditions the big ships might save a little, but when we consider demurrage, the delay in canals, and the greater risks of late autumn, it is an open question if there would be any saving from the deep waterway, compared with the reinforcement of the existing system by motor ships."

- 39 -

ALLEN, HENRY J. It can and must be done. Nation's Business 10 (3): 21-22, map. March 1922.

(114)

Comments:

The author, as Governor of Kansas, concludes: "It is my judgment that after the St. Lawrence project has gone through and is functioning, there will still be left for New York such a preponderance of traffic that it will call upon her best effort to provide proper terminal facilities to care for the products of a country that has received new life through its new pathway to the sea."

D.C.) Sept. 27, 1932, p. A-12. (Washington,

(115)

and NATHAN L. MILLER. Joint debate on the St. Lawrence ship canal. Railway Rev. 70:790-793. June 3, 1922. Comments:

(116)

Excerpts from a debate by the governors of Kansas and New York before the Illinois Manufacturers' Association, May 23, 1922.

Excerpts from Governor Allen's speech under the title, "The Tragedy of Transportation," in Citation 3, p. 34-40.

ALLEN, R. C. Iron ore industry periled by tax and St. Lawrence route.

Steel 95 (5):19-20, 39, 41. July 30, 1934. (117)

Comments:

The author, as president of the Lake Superior Iron Ore Association, says: "I am convinced that the building of the waterway and its operation at public expense would eventually destroy much of the shipping on the lakes as well as the iron mines of Lake Superior and in so doing weaken the industrial strength of the country and its power abroad."

AMERICAN ACADEMY OF POLITICAL AND SCCIAL SCIENCE, PHILADELPHIA. The St. Lawrence waterways from the lakes to the sea. Annals 135 (224):60-96, maps. January 1928.

(118)

Contents to be noted:

The St. Lawrence waterway project, by Fayette S. Warner, University of Pennsylvania, p. 60-67.

A synopsis of the Hoover report on the St. Lawrence shipway, by Fayette S. Warner, p. 68-71.

Engineering aspects of the St. Lawrence waterway, by G. B. Pillsbury, Lieutenant colonel, Corps of Engineers, U. S.-Army, p. 72-84.

AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE, PHILADELPHIA. Continued.

What the St. Lawrence waterway means to the United States, by W. L. Harding, president, Great Lakes-St. Lawrence Tidewater Association, p. 85-90.

The economic and national significance of connecting the Great Lakes with the sea by the St. Lawrence route, by I. L. Lenroot, U. S. Senator, Wisconsin, p. 91-96.

AMERICAN FARM BUREAU FEDERATION WEEKLY NEWS LETTER. Great Lakes
meeting demands prompt action. 7 (5):4. Feb. 1, 1927. (119)
Comments:

"Immediate action for a treaty with Canada to provide for the development of a Lakes to Atlantic waterway was demanded at a conference held at Muskegon last week by the Great Lakes-St. Lawrence Tidewater Association and attended by more than 500 delegates from all parts of Michigan, several other states and Canada."

Among the speakers at the conference whose statements are given in this article were Ex-Governor W. L. Harding of Iowa, president of the Great Lakes-St. Lawrence Tidewater Association, Frank H. Keefer, formerly Parliamentary Secretary of State for External Affairs and member of Parliament of Canada, William George Bruce, member of the executive committee of the Great Lakes-St. Lawrence Tidewater Association, Governor Fred W. Green, and J. F. Reed, president of the Minnesota State Farm Bureau.

Represents A. F. B. F. at waterway parley; backs up move for immediate action in development of water transportation.

5 (44):1, 2. Nov. 26, 1925.

Comments:

O. E. Bradfute, president of the American Farm Bureau Federation, stated at the seventh annual convention of the Mississippi Valley Association that "For five years the American Farm Bureau Federation has championed the development of the St. Lawrence-Great Lakes Waterway and of the Mississippi, Ohio and Missouri River development. You may count absolutely on the Farm Bureaus of the Midwest to back this movement."

ANDERSON, CHANDLER P. The St. Lawrence waterway project. Amer. Jour.
Internatl. Law 26:110-113. January 1932.
Comments:

A discussion of the international questions incident to the respective rights of the Federal and State Governments concerned in the treaty negotiations between Canada and the United States regarding the St. Lawrence waterway project.

ASHBURN, T. Q. Waterways and inland seaports. U. S. Inland
Waterways Corp. 32 p. Washington, D. C. 1925.
Comments:

See also the same author's article, "Waterway Transportation from the Viewpoint of Operation," in Amer. Soc. Civil Engin. Trans. (1931), 95:862-876.

B., L. J. Unlocking the Great Lakes. Review 2:235-237. Mar. 6, 1920. (123)

BAKER, CHARLES WHITING. What is the future of inland water transportation? Engin. News-Rec. 84:19-28, 85-89, 137-144, 184-191, 234-242.

Jan. 1, 2, 9, 1920. (124)

Contents to be noted:

Transportation on the Great Lakes, p. 27-28. The St. Lawrence water route to the sea, p. 239-240.

Comments:

"A St. Lawrence River Waterway from the Lakes to the Atlantic large enough for the Lake shipping offers greater prospect of commercial success than any other waterway project now proposed because it would cut out the entire terminal expense at the semboard and allow vessels to carry freight without transfer all the way from the Lake cities to foreign ports."— p. 234.

Editorial comment, "The Future of our Waterways," on p. 67 (Jan. 8, 1920).

Replies to this series under the title, "Experiences and Prospects of Inland Waterway Transportation," p. 763-770 (Apr. 15, 1920).

BARNES, HOWARD T. Ice conditions in St. Lawrence River. Canad. Engin. 50:207-206. Feb. 9, 1926.

(125)

Contents to be noted:

Effect of ice on water levels. Advantages provided by nature.

The method being worked out for the conservation of heat of Lake Ontario for ice prevention.

Comments:

The author is professor of physics at McGill University.

Ice problem in St. Lawrence [a letter]. Canad. Engin. 56:444. Apr. 16, 1929.

BARNES, HOWARD T. St. Lawrence and its ice problems. Canad. Engin. 57:738-739. Nov. 19, 1929.	(127)
A discussion of the ice formations and their effect on the nvaigation and power development of the St. Lawrence River between Lake Ontario and the sea.	
BARNES, JULIUS H. All the way by water; an answer to the freight problem that hampers production in the West. Independent 101: 336-337. Feb. 28, 1920.	(128)
The Great Lakes seaway. Amer. Rev. of Reviews 66:181-185, maps. August 1922.	(129)
Mid-continental ocean ports. Amer. Rev. of Reviews 50:217-218, map. August 1914.	(130)
April 1920. Comments: Editorial note, p. 26.	(131)
BARRON'S. St. Lawrence shipway opposed; the Association of Railway Executives calls the project economically unjustified. 12 (49):6. Dec. 5, 1932. Comments: The views of the organization as presented by Alfred P. Thom to a sub-committee of the Senate Foreign Relations Committee.	(132)
BAUER, JOHN. The looming of the St. Lawrence power project. Pub. Utilities Fortnightly 7:332-339. Mar. 19, 1931.	(133)
BAUMGARTNER, R. Die Binnenschiffshrt auf dem St. Lorenzstrom. Schweizerische Zeitschrift für Betriebswirtschaft und Arbeitsgestaltung (1931) 37:97-108. Reviews: Social Sci. Abs. 4:2539 (February 1932).	(134)

BAYLEY, W. S. The geographic effects of the proposed Great Lakes-St.

Lawrence waterway. Econ. Geogr. 1:236-246, illus. July 1925.

Comments:

(135)

A professor of geology at the University of Illinois and a member of the U. S. Geological Survey for many years presents the following: arguments for the waterway; the opposition; the geographic effects; the grain trade; the coal trade; the wood-pulp trade; the neighboring industries; the fertilizer trade; raw materials; people affected; summary.

BECK, ADAM. Reply to Deep Waterways Association. Canad. Engin. 48:467-469. May 5, 1925.

(136)

(137)

Comments:

A reproduction of the text of the pamphlet entitled "Unjust and Harmful Proposals Published by Authority of an Organization Known as the Canadian Deep Waterways and Power Association under the Chairmanship of O. E. Fleming, Examined and Exposed."

BELFORD, R. A. Welland and St. Lawrence canal traffic. Marine Engin. & Shipping Rev. 41:64-65. February 1936.

Comments:

"The upward trend of traffic through the Welland Canal may be reasonably cited as a presumption in favor of the improvement of the St. Lawrence Canals as the next step in the development of the connerce to and from the Great Lakes."

BENT, SILAS. Nation weighs two ship canal projects; New York route compared with St. Lawrence waterway. New York Times Mar. 28, 1926, sec. 9, p. 4, 10, illus. (138)

Proposed subsidy of the ratepayer by the taxpayer. Pub.
Utilities Fortnightly 9:439-445. Apr. 14, 1932. (139)

[BENTON, A.H., and WADE P. CONNELL]. Great Lakes-St. Lawrence waterway; effect of water transportation on North Dakota products discussed. Dakota Farmer 45:158, 160. Feb. 15, 1925.

(140)

Comments:

The article is principally composed of statements made by Dr. A. H. Benton, marketing specialist at the North Dakota Agricultural College, and Wade P. Connell, who is associated with the St. Lawrence-Great Lakes project, at the meeting of the Tri-State Grain Growers at Fargo, N. Dak.

[BENTON, A. H., and WADE P. CONNELL]. Continued. Dr. Benton said that "The farm values of North Dakota would be raised \$164,000,000 by the St. Lawrence deep waterway, the farmers of this section could save 7 cents a bushel on freight and handling charges on export grain, and that the St. Lawrence waterway would bring central North Dakota within 400 miles of the seaboard." BENTON, A. H., and O. M. FULLER. A St. Lawrence deep waterway; its significance to North Dakota. Univ. N. Dak. Quart. Jour. 17: (141)3-18. November 1926. BEST, KATHLEEN E. The economic aspects of the St. Lawrence waterway (142)plan. Mysore Econ. Jour. 15: 239-244. June 1929. --- The economic aspects of the St. Lawrence waterway plan. Roy. Bank of Canada: Essays in Canad. Econ. Prob. (1928-29) (143)2:7-17. Contents to be noted: The project, p. 7-8. Finance, p. 8-10. Transportation, p. 10-13. Economic adjustments, p. 13-15. Industrial expansion, p. 16-17. Comments: The author says, "The St. Lawrence Waterway Plan is now accepted as economically desirable, scientifically feasible and politically expedient. It is no longer a problem of possibility, but one of adjustment." BETZ, FRANKLIN S. The benefits to be derived by producers through the proper development of our waterways. Farmers' Elevator (144)Guide 23 (4):24-25, 26-28, map. April 1928. Contents to be noted: See especially the sections on "The St. Lawrence Outlet." "The Welland Canal," and "Sault Ste. Marie Canals."

(145)

- Our water way program. Farmers! Elevator Guide 22 (1):

18-19, 20, 22, illus. January 1927.

[BETZ, FRANKLIN S.] Touring in our wonderful North East: "getting an outlet to sea." Farmers' Elevator 25 (9):3-7, illus. September 1930. (146)Comments: A vacation story by the editor, including a description of the new Welland Canal and the St. Lawrence River. BEVAN, LYNNE J. The St. Lawrence waterway and power project. Lit. Digest 116 (27):16, 33, map. Dec. 30, 1933. (147)Comments: The author is a consulting engineer, and chairman of the power division of the American Society of Civil Engineers. "An impartial survey of the factors involved, and the physical situation." BIGGAR, H. HOWARD. Opening the St. Lawrence to the sea. Dakota (148)Farmer 40:1197, 1209. June 15, 1920. [BINGHAM, HIRAM.] Waterway project to benefit trade. U. S. Daily (Washington, D. C.) July 26, 1932, p. 1, 6. (149)BISHOP, CHARLES. Canada and the St. Lawrence Great Lakes waterway. Forbes 23 (9):96-97. May 1, 1929. (150)Comments: "It is not mis-stating the fact to say that, on the Canadian side of the border, without minimizing the enormous potentialities and advantages of the scheme, there is lacking an enthusiasm dissimilar from that which prevails in those parts of the United States contiguous to the waterway. Nor are Canadian interest and co-operation in any degree stimulated by the proposed counterpart of the St. Lawrence- the raising of the tariff on agricultural products....the two don'ts coincide and one seems inherently copable of prejudicing the other." BISHOP, CHARLES. The St. Lawrence waterway; a revolution in tronsport- what remains to be done. Forbes 25 (3):67. Feb. 1, 1930. (151) BOECKEL, RICHARD. Future of American waterways. Editorial Research (152)Repts. 119-137. Feb. 13, 1926.

Excerpts reprinted in Citation 4. p. 31-41.

Comments:

BRADLEY, WILLIAM P. The Great Lakes and the industrial development of Detroit. Natl. Rivers and Harbors Cong. Proc. (1924) 20:160-168. (153)Comments: An affirmative discussion, reprinted, except for the first eight and the last five paragraphs, with the same title in Citation 4, p. 59-69. BREBNER. J. BARTLET. The St. Lawrence waterway treaty. Current Hist. 35:282. November 1931. (154)BROWN, E. The St. Lawrence waterway project. Engin. Jour. 11:140-143 (155)February 1928. BROWN, GEORGE W. Canada: the deepening of the St. Lawrence. Round (156)Table 18:832-857. September 1928. Contents to be noted: Former schemes and the new project. The arguments for and against the new project. The International question. Interested opinion. Why delay was prudent. Comments: The author is a member of the department of modern history at the University of Toronto. The first St. Lawrence deepening scheme. Mich. Hist. Mag. 10:593-605. October 1926. (157)Comments: Description of the Canadian project of the 1840's to open the Great Lakes to sea transportation. - The opening of the St. Lawrence to American shipping. Canad. Hist. Rev. 7:4-12. March 1926. (158)Comments: A paper read at the meeting of the American Historical Association and other historical societies at Ann Arbor,

Mich. on Dec. 30, 1925, on the question of free navigation

of the St. Lawrence.

BROWN, GEORGE W. The St. Lawrence in the boundary settlement of 1783.

Canad. Hist. Rev. 9:223-236. September 1928. (159)

Comments:

The commercial importance of the St. Lawrence and the failure of the American negotiators to obtain navigation rights.

The St. Lawrence waterway. Willisons Monthly 4:
332-333, 362-364; 5 (1):11-13; (2):18-19. April, May,
July, August 1929.
Contents to be noted:

(160)

(161)

(162)

Map of the present navigation system of the Great Lakes waterway, indicating past developments, p. 362.

Chart showing the suggestions of the Canadian Advisory

Committee, p. 364.

The St. Lawrence waterway as a factor in international trade and politics, 1783-1854. University of Chicago, Abstracts of Theses, Humanistic Ser. (1924-1925) 3:179-184. Chicago, Ill., Univ. Chicago Press. 1927. Comments:

A summary of a doctoral dissertation on the history of the St. Lawrence waterway as a commercial route, and also its influence on the relations between the United States and Canada.

Queen's Quart. 35:628-642. Autumn 1928.

The development of the St. Lawrence as a commercial waterway from the settlement of the West at the beginning of the nineteenth century to the present time, with attention to such factors as competing routes, the international boundary, the British Navigation Acts, and the rise of hydro-electric power.

BROWN, GEORGE W. Some aspects of the St. Lawrence deepening project. Canad. Bankers' Assoc. Jour. 36:177-185. January 1929. (163)Comments: An address before the Toronto Bankers' Educational Association, affording an outline of the discussion taking place with reference to the St. Lawrence deepening scheme. BROWN. LYTLE. The Great Lakes as arteries of commerce. World Ports 20:114-121. December 1931. (164)[-----] Says pact protects Illinois waterway. New York Times July 23, 1932, p. 25. (165)— Water transportation in the United States. Harvard (166)Bus. Rev. 9:202-214. January 1931. Comments: A general discussion by the Chief of Engineers, U. S. A., which includes occasional references to the projected Great Lakes-St. Lawrence waterway. BUIE, DANIEL. Draining the Great Lakes. Outlook 137:434-436. July 16, 1924. (167)Comments: "If we are to maintain lake navigation profitably, even at present depths, the building of these retarders, which should be an international affair, ought not to be delayed. Until they are built, or until some other good way is found to allow the passage of vessels drawing at least twenty-two feet without emptying the lakes, the problem will remain acute and get worse." BUREAU FARMER. A. F. B. F. inland waterway policy: [A pro editorial]. 6 (7):8. March 1931. (168) BUREAU FARMER. A. F. B. F. inland waterway resolutions. 6 (7):6. March 1931. (169)Comments: A favorable summary, 1920-1930. Open the locks and release a marooned continent! 6 (7):2. March 1931. (170)Comments: A map showing the region served by the Great Lakes-St. Lawrence and the Mississippi systems of inland waterways. Putting the rivers to work. 6 (7):7. March (171)1931. Comments: Pro-statements of five Farm Bureau leaders which embody the A. F. B. F. platform on inland waterway development. BURPEE, LAWRENCE J. International Joint Commission; a clear statement of its origin, purpose and relation to the St. Lawrence ship-canal and power project. (172)Canad. Engin. 39:601-602. Dec. 9, 1920. Comments: The author is secretary, Canadian section, International Joint Commission.

BUSINESS WEEK. Canadian politics favor St. Lawrence waterway. Feb. 18, 1931, p. 6.

(173)

Comments:

"If, as a result of promier Bennett's visit to Washington,
President Hoover has the reported assurance of early Canadian
cooperation on the St. Lawrence lakes-to-sea canal, he can
thank Canadian politics as much as the economic and diplomatic
arguments of Colonel MacNider, his minister to the Dominion."

BUSINESS WEEK. Canadian premiers block road to sea. Feb. 12, (174)1930, p. 32-33, illus., maps. Comments: "The second attempt to clear up conflicting St. Lawrence claims of Quebec, Ontario, and the Dominion ends like the first in failure. Which probably suits Canada, if not 'the States'." Power rate; report of the New York State power authority. Nov. 17, 1934, p. 9. (175)St. Lawrence; opponents of the seaway treaty have probably made too strong a case for proponents to get it through the short session of Congress. Nov. 30, 1932, (176)p. 18, illus. Treaty beckons heavy industry to power sites on St. Lawrence; cheap electricity at dams and water transportation may build manufacturing district along (177)border. July 27, 1932, p. 17-18. Comments: The subheads are: Power payment arranged. Chicago's ancient quarrel. Shipping men unconvinced. Effect on wheat prices. Transmission costs high. CADLE, CHARLES L. A doubtful and unwise project. Nation's Business 10 (3):22-23. March 1922. (178)Comments: The author wrote as New York State Superintendent of Public Works. "New York is against the St. Lawrence project because it. regards the scheme as economically unsound, commercially futile, and, in an international sense, politically unwise." Extracts from this article are reprinted in Citation 3,

p. 65-69.

CAHAN, C. H. The St. Lawrence waterways. Dalhousie Rev. 5:490-499. January 1929. (179)Comments: A discussion of the issues involved. The author is M. P. for St. Lawrence-St. George Division of Montreal and a well-known and effective publicist on questions of Canadian policy. CANADIAN ANNUAL REVIEW OF PUBLIC AFFAIRS. The deepening of the St. Lawrence: The Chicago drainage canal. 1924-25: (180)83-85. Deepening of the St. Lawrence waterway. International proposals and commission report. 1922:100-111. Toronto. (181)1923. Contents to be noted: Canadian opinions, discussions and policy, p. 108-111. The deepening of the St. Lawrence waterway; the Chicago (182)drainage canal. 1923:55-60. Toronto. 1924. Contents to be noted: The deepening of the canals to permit ocean vessels to reach the Great Lakes. The building of a dam on the St. Lawrence to permit a great development of power. The diversion at Chicago of the waters of the Great Lakesto the Mississippi. ___ St. Lawrence waterways. 1930-31:424-426. (183)CANADIAN COMMENT. The waterway pact- a new era for Canada. 1 (8):6-9. August 1932. (184)Comments: An estimate of the benefits, possibilities, and costs of construction of the St. Lawrence waterway, and a summary of the pact.

CANADIAN ENGINEER. Action deferred on waterway project. 46:226. (185)Feb. 12, 1924. Comments: Text of the communication of Premier Mackenzie King which deferred action for further study. Agreement reached on St. Lawrence investigation. 47:635. (186)Dec. 23, 1924. Comments: An agreement as to the questions to be answered by the enlarged Joint Engineering Board which will report upon the question of the proposed St. Lawrence development. "The present proposal, according to departmental officials, embraces the examination of a project extending from the upper lakes to tidewater, and from the standpoint not only of navigation but of power. The former examination of the project was limited to the study of the St. Lawrence." Alternatives for St. Lawrence improvement. 49:654. Dec. 22, 1925. (187)- American investigators favor St. Lawrence. 52:209. 8, 1927. (188)Comments: "Strong support for the improvement of the St. Lawrence waterway is furnished in the report recently made by the Transportation Division of the Bureau of Commerce, and made public as a state paper by the United States Department of Commerce. Believing that a commercial analysis of the project would be useful in the formation of public opinion, the Department of Commerce has conducted this independent enquiry as a supplement to the report of the International Board of Engineers, recently made public." - Canada's share in the development of the St. Lawrence. 45:435. Oct. 23, 1923. (189)45:479-480. - Continue the St. Lawrence waterway study. Nov. 6, 1923. (190) CANADIAN ENGINEER. Cost distribution for the St. Lawrence waterway. 42:314. Mar. 14, 1922. (191)- Debate on deep waterways project. 43:392-394. Sept. 26. 1922. (192)Comments: J. H. Duthie, Toronto, secretary of the National Deep Waterways Association, gave the affirmative argument, and Senator George H. Lynch-Staunton, the negative at the I. O. O. F. Temple, Hamilton, on September 15. Developments in St. Lawrence project [an editorial]. (193)65 (24):15. Dec. 12, 1933. Favors the St. Lawrence waterways scheme. 50:136. Jam. 12, 1926. (194)Comments: Statements of delegates to the Great Lakes-Tidewater Congress at St. Paul, Minn., on Jan. 5-6, 1926. Full text of St. Lawrence waterways and power development treaty [with official explanation]. 63 (6):5-10, 14-15, 33-34, maps. Aug. 9, 1932. (195)Contents to be noted: The maps are: Great Lakes and St. Lawrence River and principal ports affected by project. Plan of western half of international rapids section, showing Crysler Island development. Eastern half of international rapids section, showing Barnhard Island development. International and national sections of St. Lawrence River. -Hydro's plan for St. Lawrence; summary of power development scheme advocated by the Ontario Hydro-Electric Power Cormission

Hydro's plan for St. Lawrence; summary of power development scheme advocated by the Ontario Hydro-Electric Power Cormission for the St. Lawrence. 46:146. Jan. 15, 1924.

Comments:

(196)

Proposed initial developments of the St. Lawrence power scheme as outlined to Premier Mackenzie King by Sir Adam Beck and Fred A. Gaby "comprise the following essential features: Complete navigation scheme from Prescott to Cornwall. Power houses and dam at Morrisburg. A temporary rockfill dam at the head of the Long Sault rapids."

CANADIAN ENGINEER. Is waterway scheme advisable now? 45:455-456. Oct. 30, 1923. (197)Comments: The consensus of opinion expressed at a meeting of the Engineering Institute of Canada was that although develorment of the lakes-to-ocean St. Lawrence waterway and power scheme may come in time, that time is not yet. Joint Commission to study St. Lawrence schemes. 38:211-212. (198)Feb. 12, 1920. Contents to be noted: United States and Canadian governments refer questions of power development and canalization to International Joint Commission in nine questions- instructions to engineers in charge- detailed text of reference- letter from Mr. Rowell to Mr. McGrath. Lachine section of waterway; rapids will disappear when St. Lawrence and deep waterway project is completed. 63 (8):18. Aug. 23, 1932. (199) Milwaukee convention favored St. Lawrence deep waterway. 45:456. Oct. 30, 1923. (200)Comments: Great Lakes Harbor conference at Milwaukee, Oct. 18-19. ___ National Advisory Condittee. 54:471-475. Apr. 24, 1928. (201)Contents to be noted: Dominion Government is agreeable to main proposals for joint control from head of Lakes to the sea- proposal to internationalize Welland and St. Lawrence canals- correspondence and report of the National Advisory Committee tabled in House of Commons by Premier. -- New England will inve tigate St. Lawrence scheme. 45:545. Dec. 4, 1923. (202)Mew power plan for St. Lawrence; St. Lawrence Power Development Commission propose one-stage project at Massena Point, N. Y., to develop 2,000,000 h.p. 60 (2):22. Jan. 13, 1931. (203)Comments:

Editorial comment on this report (5):22 (Feb. 3, 1931).

CANADIAN ENGINEER. New St. Lawrence power scheme. 53:210. Aug. 9, 1927. (204)Comments: Alternative power develorment scheme proposed by Joint Board of Engineers- two-stage development with dam at Crystal Island. No effect on Illinois canal. 63 (10):30. Sept. 6, 1932. (205)Comments: "United States army engineers deny claims that the St. Lawrence waterway project would destroy the usefulness of the Illinois waterway by limiting the flow of water at Lockport, Ill." - Ontario endorses St. Lawrence development. 46:180. Jan. (206)22, 1924. Comments: "Formal authorization was granted the Ontario Hydro-Electric Power Commission at a meeting of the Cabinet on January 14, to apply to the Dominion Government for permission to undertake the St. Lawrence power development project [at Morrisburg]." Power development on the St. Lawrence. 46:201. Jan. 29, (207)1924. Comments: "Whether one favors the deepening of the St. Lawrence waterway or not, it is clear that the utilization of power has been greatly delayed by the hitherto fruitless efforts to bring about the navigation improvement." President Harding endorses St. Lawrence scheme. 42:194. (208)Jan. 31, 1922. Comments: Comment on address before the National Agricultural Conference at Washington, Jan. 23, 1922.

st. Lawrence deep waterway project; treaty between Canada and the United States being prepared for signature paves way for big power and navigation scheme. 63 (3):18, 41-42. July 19, 1932. (209) Contents to be noted:

Curb on Chicago; power development; some new works; total cost involved; Lachine Regids; International Joint Commission; Thousand Islands section; Soul news section.

CANADIAN ENGINEER. St. Lawrence development. 46:352. Mar. 18, 1924. (210)

-- St. Lawrence navigation and nower investigation. 42:139-145. Jan. 17, 1922. (211)

Contents to be noted:

Details of double development plan as proposed by the New York & Ontario Power Co.

Suggestions based on fourteen years' study of conditions in vicinity of Waddington.

Proposed sites at Rapid du Plat and Long Sault.

Comments:

See also the editorial, "Rival St. Lawrence Waterway Projects," in Canad. Engin. 42:196-197 (Jan. 31, 1922), and D. W. McLachlan's criticism of this editorial, "St. Lawrence Waterway," in Canad. Engin. 42:331 (Mar. 21, 1922).

St. Lawrence navigation plan; critical examination by the Canadian Industrial Traffic League. 62 (7):46. Feb. 16, 1932. (212)Comments:

An account of the proceedings of the League as presented in the Montreal Gazette, and the conclusions of the Inland Waterways Committee.

"Taking the subject of navigation in a broad sense the opinion of the Committee was that the attraction of ocean bottoms is largely obscure and that if the facilities are provided for the purpose of developing ocean traffic to and from the Great Lakes it would be strongly advisable to discount considerably the possibility of such vessels entering the trade in numbers large enough to warrant the expenditure involved."

- St. Lawrence power development; representatives of Ontario Hydro-Electric, Power Commission and New York State agree on plan to expedite power development project. 51:122. July 13, 1926.

(213)

Comments:

See also the editorial, "Engineers Confer on St. Lawrence," 51:173 (July 27, 1926)..

The St. Lawrence project. 56:405-406. Apr. 2, 1929. (214)Comments:

An editorial which states that "In all the discussion on this important subject it is evident that most citizens are convinced that the project is feasible, both as a waterway and as a means of producing power."

CANADIAN ENGINEER. St. Lawrence project favored [by delegates to Great Lakes Harbor Association Convention.] 53 575. Nov. 29, 1927.	(215)
St. Lawrence River power development; discussion at meeting of engineering societies in Chicago. 65:11-12. Aug. 1, 1933.	(216)
The St. Lawrence waterway; [editorial]. 54:151. Jan. 17, 1928.	(217)
The St. Lawrence waterway; [editorial]. 63 (4):20. July 26, 1932.	(218)
St. Lawrence waterway treaty will mean over \$200,000,000 spent in Canada. 63 (4):34, 36. July 26, 1932. Contents to be noted: Thousand Islands section; international rapids section; Ogoki diversion; Chicago diversion; may build national canals; compensating works; Ontario's share; New York's share; statement by Premier; Canadian plan adopted; Enormous industrial expansion.	(219)
Sidetracking the St. Lawrence. 46:241. Feb. 12, 1924. Comments: An editorial concerning new schemes proposed by advocates of rival waterways.	(220)
Supervisory commission for waterway. 63 (10):33. Sept. 6, 1932. Comments: "Construction of the St. Lawrence waterway project will be undertaken under the supervision of a government supervisory commission and on a strictly business basis. "The name of the organization specified in the treaty signed recently between Canada and the United States, is the St. Lawrence International Rapids Section Commission."	(221)

CANADIAN ENGINEER. Text of Dominion and Ontario agreement on St. (222)Lawrence project. 63 (5):7-10, 15-16. Aug. 2, 1932. Comments: "Cost of navigation works to be assumed by Dominion and power development costs by Province- text of articles and official explanation of agreement. "- Subtitle. Water powers worth ninety million tons of coal per annum can be developed for Canadian use between Soo and Montreal, says Sir Adam Beck- not needed for quarter century, claims R. M. Wilson- testimony before International Joint Commission. (223)39:435-436. Oct. 14, 1920. (224)Waterways project discussed. 47:581. Dec. 9, 1924. Comments: The Canadian Deep Waterways and Power Association, at its convention at St. Catharines, Ont., Nov. 28, 1924, approves the deepening of the St. Lawrence River and opposes Chicago diversion. CANNON, LUCIEN. La canalisation du Saint-Laurent. Revue du Droit (225)7:140-169. November 1928. "CANUCK." St. Lawrence waterways. Sat. Rev. 158:408. Nov. 17, 1934. (226)Comments: "...responsible people in Canada view with deep mistrust a policy they regard as short-sighted and detrimental to the best interests of the Nation as a whole. They do not believe in sharing our sovereignty over any of our National Waterways with any foreign country, on any terms whatsoever." CARRINGTON, E. C. Extending the Panama canal to the Great Lakes. Port and Terminal 10:9-10. December 1930. (227)- Why the all-American canal route is preferred; wider distribution of manufactured and raw material afforded Western shippers. Port and Terminal 8:9-10. October 1928. (228)Comments: Address before the Atlantic Deeper Waterways Assoc.,

Cape May, N.J., Sept. 7, 1928.

CARTER, DEWITT. Relative sizes and capacities of our canals reflected in trend of traffic. Ontario Hist. Soc. Papers and Rec. 23: 19-27. 1926.

(229)

Comments:

This paper, read before the Welland County Historical Society, is mainly concerned with the danger to Montreal of the opening of the New Welland canal before the St. Lawrence is decomed.

CAWCROFT, ERNEST. The fight for commercial supremacy. Canad. Mag. 34:465-473. March 1910.

(230)

Comments:

"The Empire State is fighting for the commercial supremacy of the Continent of North America."

CHALLIES, G. H. Can power finance navigation project? Canad. Engin. 60 (24):19-22, illus. June 16, 1931. (231)

Comments:

An "expose of the baneful effect of any attempt to saddle power users with navigation costs which should properly be borne by the Dominion..." by a member of the Ontario Provincial Legislature. He maintains that since no truly scientific basis of apportionment can be found, there should be an "arbitrary equal division as between navigation and power of the cost of all common works."

Editorial comment, n. 24.

St. Lawrence power and navigation. Canad. Engin. 61 (21):
21-22. Nov. 24, 1931.

(232)

Comments:

The author believes that the cost of navigation improvements in the international section should not be borne by consumers of power. A paper read before the Electrical Club of Toronto.

CHALMERS, W. W. The St. Lawrence waterways project. Current Affairs
(Boston) 12 (50):5-6. May 1, 1922.
Comments:

(233)

Abstract of the address by Congressman Chalmers of Chio at a luncheon in which he outlined his reasons why the St. Lawrence project should be put through.

CHANDLER, WILLIAM H. Why New England opposes the St. Lawrence project.

Current Affairs (Boston) 11 (47):3-4, 29, 30, 33; (48):3-4,
28-29. Mar. 28, Apr. 4, 1921.

(234)

CHANDLER, WILLIAM H. Continued.
Comments:

A reply to the article by Henry I. Harriman, primarily from a transportation viewpoint, dealing specifically with its relation to New England railroads, New England port development and the New England manufacturer. The second installment is an outline of the situation as it affects New England, emphasizing particularly the various phases of the transportation-versus-power problems raised by Harriman.

CHEURIER, JEAN. Les services maritimes du Canada. Etudes Économiques, Pubs. de l'Ecole des Hautes Etudes Commerciales de Montréal 3: 357-399. 1933. Comments:

The administration, characteristics, and advantages of Canada's principal scaports, the possibilities of a Canadian merchant marine, the St. Lawrence route, etc. With an extensive bibliography.

CLINTON, GEORGE. Ship canals from the Great Lakes to the ocean.
Shipping 10 (9):17-19, 67. Mar. 3, 1920.

Comments:

(235)

An abstract of the address before the National Rivers and Harbor Congress, Dec. 9, 1919. The author, a member of the International Waterways Commission, is opposed to the project.

New York 11 (12):1-7. Mar. 20, 1922. (237)

The author concludes as follows: "From no intelligent and unbiased point of view can the canalization scheme be supported. It is quite plain from the facts as I have attempted to present them, that there will be no benefits warranting the expenditure, that the scheme involves many serious disadvantages and that the undertaking should not be entered upon at this time nor for many years, even if it could be shown to be commercially a success."

COMMERCE AND FINANCE. The St. Lawrence waterway. 21:978. July 27, 1932.

Comments:

Comments on the reception given the signing of the St. Lawrence Waterway Treaty. Pro and con.

COMMERCE AND INDUSTRY. What canal transportation costs. 6:17. April 1926.	(239)
COMMERCIAL AND FINANCIAL CHRONICLE. The Great Lakes-St. Lawrence waterway treaty. 135:530-538. July 23, 1932.	(240)
Opposition to St. Lawrence canal voiced at luncheon of New York Chamber of Commerce. 127:2182. Oct. 20, 1928. Comments: The article includes statements by Leonor F. Loree, president of the Chamber, Col. Edward C. Carrington, president of the Hudson Night Line, and Senator Royal S. Copeland.	(241)
,Senate defeats ratification of St. Lawrence waterway treaty with Canada. 138:1832. Mar. 17, 1934.	(242)
COMMONWEAL. The St. Lawrence seaway. 17:115. Nov. 30, 1932.	(243)
Comments: Editorial comment on the claims that the waterway is economically unsound. Con. COMSTOCK, A. H., and S. WALLACE DEMFSEY. The Great Lakes-St. Lawrence deep waterway project; pro and con. Cong. Digest 3:387-388. September 1924. Comments: Pro, by A. H. Comstock, chairman, Great Lakes-St. Lawrence Tidewater Commission of Minnesota; Con, by S. Wallace Dempsey, U. S. Representative, New York, Republican, Chairman, Committee on Rivers and Harbors.	(5州+)
question. Port and Farminal 2 (2):11-12. March 1922. Comments: Con, by R. G. Glesson, secretary, Great Lakes-Hudson and Atlantic Waterways Association.	(245)
CONGER, S. BEACH. St. Lawrence: for nower and ships. World Today 59:504-511, illus., maps. May 1932. Comments: An importial discussion of cost as divided between Canada and the United States, and the controversy between New York and the Federal Government concerning power development.	(246)

CONGER, S. BEACH. St. Lawrence: for power and ships. World's Work 61 (2):20-25. February 1932.

(247)

Comments:

"The project described in brief from the point of view of engineer, financier, operator, diplomat, and Governor Roosevelt, who, President-minded, knows that the world's greatest hydroelectric station on an international waterway raises questions which he cannot now solve."

CONGRESSIONAL DIGEST. [The Great Lakes-St. Lawrence waterway.] 1 (12): September 1922.

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Contents to be noted:

Chronology of official action on St. Lawrence seaway, p. 5. Recommendations of the International Joint Commission, p. 7. Legislation providing for St. Lawrence seaway, p. 8.

House members discuss St. Lawrence seaway (pro, W. W. Chalmers, Ohio; con, Feter G. Ten Eyck, N. Y.), p. 9.

Senate members discuss St. Lawrence seaway (pro, Senator Frank B. Kellogg, Minnesota; con, Senator William M. Calder, N. Y.), p. 10.

Calder, N. Y.), p. 10.

Governor Allen vs. Governor Miller on St. Lawrence seaway, p. 11.

Business men discuss St. Lawrence seaway (pro, Julius H. Barnes, president, U. S. Chamber of Commerce; con, Henry W. Hill, president, N. Y. State Waterways Association), p. 12.

Business organizations discuss St. Lawrence seaway (pro, Associated Industries of Massachusetts; con, Merchants' Association of New York), p. 13.

Waterway commissions discuss St. Lawrence seaway (pro, Michigan Deep Waterways Commission; con, New York State Waterways Conference Committee), p. 14.

The West vs. New York on St. Lawrence seaway (pro, Great Lakes-St. Lawrence Tidewater Association; con, Commission in Opposition to the St. Lawrence Ship Canal and Power Project, and the Institute of American Business), p. 15.

Chicago press vs. New York press on St. Lawrence seaway (pro, editorial, Chicago Tribune; con, editorials, New York Tribune).

Map showing section of St. Lawrence River to be improved under plan recommended by International Joint Commission, p. 6.

CONGRESSIONAL DIGEST. Proposed power developments on the St. Lawrence; the President's recommendation to Congress. 13:236-237.

October 1934.

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Comments:

"...I subscribe to the definite belief that the completion of the seaway will greatly serve the economic and transportation needs of a vast area of the United States and should, therefore, be considered solely from the national point of view."

The St. Lawrence project vs. the New York route for proposed shipway from Great Lakes to Atlantic. 6:3-24. January 1927. Contents to be noted:

(250)

Importance of developing our water resources, by Herbert C. Hoover, p. 3-4.

Efforts to promote a shipway from Great Lakes to Atlantic, chronology of official steps taken to date, p. 4-8.

Chicago water diversion problem, p. 9, 34.
Official agencies authorized to report on proposed routes for

shipway from Great Lakes to Atlantic, p. 10-13, 15, 35. Description of proposed routes (St. Lawrence route; Lake Ontario-Hudson route; all-American route), p. 14-15.

St. Lawrence shipway vs. the New York route, pro and con arguments, by members of Congress, state officials, engineers and the press, y. 16-24.

CONTRACT RECORD AND ENGINEERING REVIEW. St. Lawrence waterway now a definite construction prospect. 46 (30):835-838, maps. July 27, 1932.

(251)

Comments:

A summary of the terms of the treaty concluded between the United States and Canada.

COOPER, HUGH L. The improvement of the St. Lawrence from the viewpoint of private capital. Amer. Inst. Elect. Engin. Jour. 41:854-865, illus., maps. November 1922.

(252)

Contents to be noted:

Private capital personnel and proposal.
Attitude of water power toward navigation.
Physical magnitude of the proposed plans.

Six new great values to the public from a reconstructed St. Lawrence River.

How St. Lawrence benefits should be achieved. Comments:

An address by a consulting engineer of New York before the A. I. E. E. at Chicago, Apr. 21, 1922. COOPERATIVE MANAGER AND FARMER. Past history of the lake trade and hopes for the future. 10 (3):32-35: November 1920.

(253)

[COPELAND, ROYAL S.] Copeland sees no U. S. gain from St. Lawrence seaway. Railway Age 95:70-71. July 1, 1933. Comments:

(254)

Abstract of an address before the Women's Traffic Club of Greater New York, June 24, 1933.

St. Lawrence canal vs. the all-American route. Chamber of Commerce of the State of New York Monthly Bull. 20:150-157. October 1928.

(255)

COREY, HERBERT. Uncle Sam's prodigious power project: the political aspects of the St. Lawrence power plant have obscured its purely economic aspects. Public Utilities Fortnightly 10:603-611. Nov. 24, 1932.

(256)

COURTNEY, W. B. Duluth smells ocean breezes. Collier's 93 (17): 14-15, 60-61, 62, 64, illus., map. Apr. 28, 1934. Comments:

(257)

This article gives some interesting incidents in the history of Duluth and tells of the city's belief in and hope for the seaway.

"The time is near, so Duluth believes, when the winds blowing off Lake Superior will carry with them the fragrance of cinnamon and patchouli. The wharves in St. Louis Bay will teem with the color and romance of far places, and a seaport at the head of America's inland seas will be available to half our population and almost half our wealth. Duluth sees herself as one of the greatest cities of the future. The near future, she hopes. A dream that has glowed for half a century in the face of successive disappointments can't be darkened by the delays of Congress. Duluth believes in the Seaway: this is the substance of her vision."

[COWIE, F. W.] St. Lawrence River problems. Canad. Engin. 49:674. Dec. 29, 1925.

(258)

Comments:

An account of the address on "The Port of Montreal" to the Traffic Club of Montreal. He suggests building a dam to maintain river level and discusses the problems of navigation, maintaining depth of ship channel, and the work of harbor commissions.

CRAIG, CHALLS P. Bringing the Atlantic to the heart of the continent.

Bureau Farmer 6 (7):5-6, maps. March 1931. (259)

Comments:

The author is executive director, Great Lakes-St. Lawrence Tidewater Association.

"The competitive position of the mid-continental area may be measurably restored through increasing the usefulness of the Great Lakes by opening them to the sea and extending the ocean 1,000 to 1,400 miles inland; remove the handicap of remoteness from the sea by placing the interior of the continent on a seabase for rate making; build up the manufactures and consequent consumptive market for agricultural products, close to the point of food production, and bring to the mid-continental areas that degree of prosperity which has been the lot of the coastal areas for the fifteen-year period- 1915-1929."

From the Great Lakes to the Atlantic. Sat. Evening Post 192 (52):40, 42, 44, 46, 48. June 26, 1920. (260)

(261)

(262)

The Great Lakes-St. Lawrence canal. Engineers & Engin.
48:145-149, map. July 1931.
Comments:

An address before the Engineers Club, Apr. 14, 1931. A "consideration of what actual work has been and is still to be done."

The Great Lakes-St. Lawrence seaway and hydro-electric project. Pan-Amer. Mag. 41:123-129. July 1928.

Water highway to link Great Lakes to sea. Banker-Farmer 11 (5):13, illus. April 1924. (263)

of New York 5 (4):5-6. April 1926. (264)

Editorial comment, p. 15-16.

end ELON H. HOOKER. The battle of the St. Lawrence canal;
a commercial debate. Amer. Industries 28 (10):21-30. May 1928. (265)
Comments:
Affirmative Charles P. Crais, executive director of the

Affirmative, Charles P. Creig, executive director of the Great Lakes-St. Lawrence Tidewater Association.

Negative, Elon H. Hooker, president of the Hooker Electro-Chemical Co. of New York.

- 66 -

CROWTHER, SAMUEL. Inland sea ports; the Midwest's stake in St. Lawrence shipping and electric power. Country Gent. 92 (4):3-5, 52, 54, 55, illus., map. April 1927. Contents to be noted: (266)The subject is discussed under the following headings: the Midwest's handicap; Forther away from market; freight traffic makes a country; into the shoals of politics; power may overshadow transport; the highest-profit markets; nation-wide benefits; the Barrhart Island dam; a record power plant; great hazards to overcome; the Canadian. line-up; New York's partisan muddle; two factors of importance; Buffalo the key port; the simplest way out. Comments: The author concludes that "solely as an affair of transport the project is probably not worth while, but since it can be combined with power it is worth while, for then a new transport system can be opened at an inconsiderable cost, and this transport system may or may not develop into a great national benefit." CUMMINGS. J. E. The Great Lakes-St. Lawrence waterway project. Minn. Municipalities 7:73-80, maps. June 1922. (267)CUNNINGHAM, B. The St. Lawrence ship channel. Water and Water Engin. 31:159-161. Apr. 20, 1929. (268)CURRENT OPINION. Hostility to New York revealed in St. Lawrence canal project. 72:689-691. May 1922. (269)Comments: "In the ebb and flow of debate as to the advisability of raising and spending several hundred million dollars in making the St. Lawrence River navigable ... it develops that the impetus given the project is attributed to the dangerous hostility to New York that is widespread in the United States!" St. Lawrence River canal is both denounced and championed. 72:265-267, map. February 1922. (270)Comments: Largely a summary of current expressions of opinion. DAKOTA FARMER. St. Lawrence commission; definite action taken on waterway development. 44:375, 391. Apr. 1, 1924. (271)Contents to be noted:

Early legislative history; members of the council; will effect

many people; President's favorable message. - 67 -

[DAVID, A.] St. Lawrence water project; Quebec provincial secretary is opposed to power and navigation scheme. Canad. Engin. 61 (24):49-50. Dec. 15, 1931. Comments: "The advantages which it is pretended would accrue to this country are those of which we have no need; the project is premature in every aspect of it."	(272)
DAVIS, ALLAN ROSS. The St. Lawrence canal route. Canad. Mag. 3:148-154. June 1894.	(273)
DEALEY, JAMES Q., Jr. The Chicago drainage canal and St. Lawrence development. Amer. Jour. Internatl. Law 23:307-328. April 1929. Comments: The Canadian position that the question of St. Lawrence development "must be considered in conjunction with the entire problem of the Great Lakes-St. Lawrence watershed and thereby with the Chicago diversion."	(274)
DEMPSEY, S. WALLACE. An all-American deeper waterway from the Great Lakes to the Atlantic. Chamber of Commerce of the State of New York Monthly Bull. 17 (7):25-35, map. February 1926. Comments: An address by the chairman of the committee on rivers and harbors of the U. S. House of Representatives before the New York Chamber of Commerce. The large folded map shows the Hudson Bay route, the Georgian Bay, French-Ottawa River route, the St. Lawrence waterway, and the all-American deeper waterway.	(275)
An all-American route connecting the Great Lakes and Atlantic. Port of New York 5 (4):3-5. April 1926. Comments: The author is opposed to the St. Lawrence route. Editorial comment, p. 15-16.	(276)
Another view of the St. Lawrence project. Amer. Inst. Elect. Engin. Jour. 41:871-876. November 1922. Comments: An address expressing opposition to the project before the A. I. E. E. at Chicago. Apr. 21, 1922.	(277)

[DERN, GEORGE H.] Favors early start on seaway. Canad. Engin. 65 (15): • • • • 20. Oct. 10, 1933. (278)Comments: The survey of the St. Lawrence Waterway project by the Secretary of War, George H. Dern. "The task of our department is to investigate the St. Lawrence River for power and navigation. I have followed the project through the lakes from Duluth, Superior and down the St. Lawrence as far as Massena. Roosevelt is heartily in favor of the project and its immediate development as a part of the administration's recovery program." DESFOSSES. P. Le port du Montreal. La Nature (2805): 241-244. Mar. 15, 1929. (279)Reviews: Social Sci. Abs. 1:4836 (1929). DISCOVERY. The new St. Lawrence waterway of Canada. 14 (164): 242-246, illus., map. August 1933. (280)DORAN, E. M. Doubts expressed in U. S. as to feasibility of present St. Lawrence waterway plan. Monetary Times 86:64. Mar. 6, 1931. (281)DRURY, E. C. The St. Lawrence question. McLean's Mag. 42 (3):3-4, 36; (4):9, 40, 42; (5):12, 56-57; (7):3-4, 68; (8):11, 70, 72, 75, illus., maps. Feb. 1, 15, Mar. 1, Apr. 1, 15, 1929. (282)Contents to be noted: The question reduced to clear and simple terms. The dangers of non-cooperation. Navigation. Power International aspects. Comments: Reprinted and distributed separately. The author, former prime minister of the province of Ontario. "The St. Lawrence Question," a reply by J. Lambert Payne, 42 (10):19, 68, 71-72, 74; (11):19, 62, 64 (May 15, June 1, 1929). Drury's rebuttal, in 42 (14):12, 54, 56-57 (July 15, 1929). "The St. Lawrence Question; Article Seven, a Reply to Mr. Drury," by W. K. Sandwell, in 42 (12):3, 76, 79-80 (June 15, 1929).

aroused by St. Lawrence waterway treaty. New York Times July 31, 1932, sec. 2, p. 6 E.	(283)
[DUNNING, CHARLES.] St. Lawrence River power survey. Canad. Engin. 51:107. July 6, 1926. Comments: Some details of work accomplished to date by the International Board of Engineers.	(284)
DURAND, LOYAL. The grain trade of the Great Lakes. Jour. Geogr. 24:260-267. October 1925. Contents to be noted: Relationship between the grain and coal trades; the grain-shipping ports; Duluth-Superior grain shipments by lake; Fort William-Port Arthur; Milwaukee; Chicago; summary.	(285)
DURSTINE, W. E. Lake Erie and its southern ports. Jour. Geogr. 9:183-186. March 1911.	(286)
[DUTHIE, J. H., and GEORGE H. LYNCH-STAUNTON.] Debate on deep waterways project. Canad. Engin. 43:392-394. Sept. 26, 1922. Comments: Editorial comment, ibid., 600 (Dec. 5, 1922).	(287)
[EASTMAN, JOSEPH B.] Would analyze merits of waterway projects. Railway Age 96:663, 671. May 5, 1934. Comments: An address by the federal co-ordinator of transportation before the National Rivers and Harbors Congress at Washington, Apr. 30, 1934.	(288)
EDITORIAL RESEARCH REPORTS. The Great Lakes-to-Atlantic waterway project. Sept. 17, 1928, p. 827-849. Contents to be noted: St. Lawrence waterway in the 1928 campaign. Sectional alignment on lakes-to-sea project. Investigations of lakes-to-sea project. Economics of lakes-to-sea project. Canada and the St. Lawrence project.	(289)

ELECTRICAL WORLD. Cost allocations asked in seaway treaty. 100:841. Dec. 24, 1932.

(290)

Comments:

"Adoption of a reservation to the proposed St. Lawrence seaway treaty with Canada, to provide for equitable distribution of this country's share of the power and an understanding, if not concrete arrangements, for allocation of costs between the United States and the State of New York, was urged before the Senate committee on foreign relations... by Frank P. Walsh, chairman of the Power Authority of the State of New York."

Cost of energy distribution; power authority of New York makes report on costs of distribution and St. Lawrence power. 104:933-934. Nov. 24, 1934.

(291)

5,000,000 hp available from St. Lawrence. 77:312-314, illus. Feb. 5, 1921.

(292)

Comments:

Statements extracted from a report recently submitted to the International Joint Commission on navigation and power development of the St. Lawrence River between Lake Ontario and Montreal, by Hugh L. Cooper & Company.

For St. Lawrence power. 85:314. Feb. 7, 1925.

(293)

In its annual report, the New York State Water Power Commission stated that the "'development of water power on the St. Lawrence River should not be made dependent on navigation improvements, and development of power should be permitted to proceed at as early a date as feasible, leaving navigation improvements to proceed if and when determined upon'."

St. Lawrence-Niagara agreement sought; diplomatic correspondence with Canada indicates likelihood of negotiating treaty covering Great Lakes diversion, more power from falls and scenery preservation. 87:470-471, map. Feb. 27, 1926.

(294)

St. Lawrence power report. 97:189-192. Jan. 24, 1931. Reviews:

(295)

Electrician 106:364 (Mar. 6, 1931).

ELECTRICAL WORLD. St. Lawrence River program; engineering work to follow close of preliminary negotiations with Canada. 85:890. (296)Apr. 25, 1925. - St. Lawrence seaway project criticised at A. I. E. E. convention. 79:845-846. Apr. 29, 1922. (297)Comments: "Strong criticism of the plan of development of the St. Lawrence seaway proposed by the Joint International Commission was voiced by Hugh L. Cooper, consulting engineer of New York, in the discussion of the subject before...the American Institute of Electrical Engineers at Chicago The development as proposed in the report was criticised as having to many dams and too many miles of canal, while the means of handling the ice problem were characterized by the speaker as absolutely inadecuate.... "Representative Dempsey, chairman of the committee on rivers and harbors of the House of Representatives, characterized the project as a vision, while Henry I. Harriman, chairman of the Massachusetts Commission on Foreign and Domestic Commerce and president of the New England Power Company, spoke in favor of it." — St. Lawrence tied to promotion of domestic load. 101: (298)389-391. Mar. 25, 1933. (299)St. Lawrence treaty signed. 100:97. July 23, 1932. Comments: The principal features involved in the treaty, and also the statement of Premier A. A. Taschereau of Quebec who condemned it. - Why Canada objects to single-stage development on the St. Lawrence. 88:1182. Dec. 4, 1926. (300)ELLIOTT, L. E. The Great Lakes-St. Lawrence waterway project. Pan-Amer. Mag. 37:361-366. July 1924. (301)ENGINEER. Proposed Great Lakes-Atlantic canal. 133:259-261, maps. Mar. 10, 1922. (302)

A discussion of lake newigation, navigation of the upper

St. Lawrence, and plans for St. Lawrence improvement.

Comments:

ENGINEER. The St. Lawrence waterway agreement. 154:163, map. (303.)Aug. 12, 1932. Comments: The works necessary to bring the deep waterway into being. _ St. Lawrence waterway project; report on international (304)rapids section. 150:300-302, maps. Sept. 19, 1930. Comments: A summary of the report of the conference composed of representatives of the Province of Ontario and the Canadian members of the Joint Board of Engineers on the best method of development of the international rapids section of the St. Lawrence River. Also in Engin. Jour. 13:702-704 (December 1930). (305) ENGINEERING. The St. Lawrence. 131:287-288, map. Feb. 27, 1931. Comments: A review of developments in the waterway project. The St. Lawrence waterway treaty. 134:99-100. July 22, (306)1932. ENGINEERING NEWS-RECORD. Analysis of plan to form sixth Great Lake in Canada: diversion of waters of two Canadian rivers into Lake Superior too expensive formation of sixth great lake impossible. 96:358-360, map. Mar. 4, 1926. (307)Comments: A scheme for lake-level restoration by the diversion of Canadian rivers from the Hudson Bay watershed. - Atlantic and Hudson Waterways Association meets. 87:37. (308)July 7, 1921. Comments: "Fullest use of the New York State Barge Canal, as opposed to the St. Lawrence waterway project, was urged at the first convention of the Great Lakes, Hudson & Atlantic Waterways Association, held at Buffalo, June 29-30, 1921." Bill appropriates \$275,000 for St. Lawrence River study. 94:248. Feb. 5, 1925. (309) ENGINEERING NEWS-RECORD. Canada and United States prepare St. Lawrence development. 84:334-335. Feb. 12, 1920. (310)Comments:

Orders are issued to International Joint Commission to make study of power and navigation possibilities of River.

Excerpts from the letter of Secretary of State Lansing to the International Joint Commission.

Chicago diversion decision pivotal St. Lawrence issue; sanitary problem settlement must precede international phase, is Washington view. 93:762. Nov. 6, 1924. (311)

- Col. Kelly gives views on St. Lawrence project; project should be started at once, says army engineer- suggests (312)30-foot depth for channel. 93:280. Aug. 14, 1924.

— Coming battle over St. Lawrence route to the sea. 84:405. Feb. 26, 1920. (313)

Comments:

"The power necessities seem to us to be predominant, but navigation must be studied, too, because when power is being developed it is simpler to provide for navigation necessities than were they considered alone. This phase of the question must be studied nationally and not locally."

- Coolidge names commission to study St. Lawrence. 92:506. (314)Mar. 20, 1924.

- Developing the St. Lawrence for shipping and power. (315)109:81-83, map. July 21, 1932. Comments:

"In the light of the latest and most definite development of a treaty agreement, it appears desirable to review briefly the activities that have preceded in so far as they relate to the engineering problems and the proposed methods of solving them. The general provisions of the treaty are summarized in the accompanying statement. They are based on a final report of the joint board of engineers, dated April 9, 1932."

Sketch map of International Rapids section of the St. Lawrence River, showing principal r pids and islands considered by various

commissions as possible sites for dams and power plants.

ENGINEERING NEWS-RECORD. Engineering features of the St. Lawrence waterway. 85:786-788. Oct. 21, 1920. (316)Estimates made of lakes-to-ocean canal traffic. 98:208. Feb. 3, 1927. (317)Comments: Department of Commerce estimates on traffic tributary to the proposed Great Lakes-St. Lawrence and Lakes-to-Hudson ship canals. — Moving forward on the St. Lawrence. 92:1084-1085. June 26, 1924. (318)Comments: A discussion of the essentials of the project and the complications which prevent its early initiation. - River and harbor work on the Great Lakes. 101:914. Dec. (319.)20. 1928. St. Lawrence engineers instructed on scope of work. 94: 720-721. Apr. 30, 1925. (320)Comments: Condensed in Canad. Engin. 48:508 (May 19, 1925). St. Lawrence Joint Engineering Board ends session. 93:1012. Dec. 18, 1924. (321)Comments: "Nothing transpired at the recent meeting in Washington ... to justify newspaper articles stating that the meeting was a 'victory for the Canadian viewpoint.' The truth of the matter is that the meeting simply was a discussion of the engineering phases of the problem." - St. Lawrence treaty favorably reported by Senate committee. 110:232. Feb. 16, 1933. (322)Comments: "The committee's favorable report was made after representatives of the New York State Fower Authority and engineers of the War Department had agreed on recommendations as to the share of the cost of the work to be borne by New York."

ENGINEERING NEWS_RECORD. St. Lawrence waterway under discussion by the two countries; both Canada and the United States are in close accord as to basis of treaty. 100:639-640. Apr. 19, 1928. Comments: A discussion of financial problems and allocation of work.	(323)
Single-stage power development on the St. Lawrence River recommended. 106:85-86. Jan. 8, 1931.	(324)
State development of St. Lawrence River for power is approved. 106:743/. Apr. 30, 1931.	(325)
What about the St. Lawrence waterway? 85:1259. Dec. 30, 1920. Comments:	(326)
A summary of "the essential elements in the St. Lawrence scheme."	
ENGINEERING WORLD. Report on Great Lakes-St. Lawrence deep waterway. 21:285-287. November 1922.	(327)
[EVANS, W. SANFORD.] Opposes St. Lawrence waterways project. Canad. Engin. 45:566. Dec. 11, 1923. Comments: A discussion of the economics of the question before the Winnipeg branch of the Engineering Institute of Canada.	(328)
EVENING STAR (WASHINGTON, D. C.). National opinion is divided on St. Lawrence canal plan. Jan. 17, 1934. p. A-8.	(329)
EXECUTIVE MAGAZINE. Why we don't need a seaway. 18:20. April 1935.	(330)
Would the St. Lawrence seaway help the farmer and manufacturer? 18:15-16/. January 1935.	(331)
FARMER'S ADVOCATE. The St. Lawrence deep waterway project. 67: 495, 519, maps, Aug. 4, 1932. Comments: "This short treatise will be confined for the most part to an outline of the project, its cost and the accompanying development of power." - 76 -	(332)

FARMER'S ADVOCATE. Continued.

There is a detailed chart of the river section where the works will be undertaken, showing the line of navigation, the amount of power to be developed by each nation, and the location of dams, locks, and power houses.

St. Lawrence waterway a national project. 65:1677, illus. Nov. 20, 1930.

(333)

Comments:

A general discussion of the waterway, pro and con, with quotations from G. W. Stephens, "The St. Lawrence Waterway Project."

FARMER'S ELEVATOR GUIDE. Current information on water ways. 23 (11): 14, illus. November 1928.

(334)

Comments:

Quotes statements from the Star (Toronto), and from the Hub (Kearney, Nebr.) which favor the St. Lawrence waterway rather than the all-American canal.

Highlights of the St. Lawrence treaty. 29 (3):8-9.
Mar. 5, 1934.

(335)

Comments:

The highlights of the attack made by the Mississippi Valley Association against the ratification of the St. Lawrence treaty and the reply by Charles P. Craig.

Recent negotiations between U.S. and Canada; Great Lakes-St. Lawrence channel under consideration. 22 (8):36, 42. August 1927.

(336)

Comments:

This article contains the note of Secretary Frank B. Kellogg to Vincent Massey, Canadian Minister, and the Canadian reply concerning the report of the Joint Board of Engineers.

St. Lawrence waterway facts. 26 (6):21. June 1931.

(337)

Tonnage, classes of transportation, costs, amount of traffic available, etc.

FARMER'S ELEVATOR GUIDE. The two great continental waterway prejects which will open the Mississippi Valley to all world ports [map]. 21:79. December 1926.

(338)

(339)

Comments:

This map gives the physical status of the Great Lakes-St. Lawrence and Lakes-to-Gulf waterways, December 1925. The map is reprinted in 22 (6):19 (June 1927).

The water way program. 21 (6):11-12; (7):10-11; (8):14-15; (9):41-42; (10):18-19; (11):33-34; 22(6):18-20; (8):34-35,42;(10):36-37; (12):14-15; 23 (6):13, 14, illus., maps. June-Hovember 1926, June, August, October, December 1927, June 1928. Contents to be noted:

The St. Lawrence way, and importance of Great Lakes outlet, 21 (6):12.

The international way, great advantages of St. Lawrence, and the best way, 21 (7):10-11.

Locks and dams, 22 (6):19-20.

Breaking the bottle-necks, 22 (8):34-35.

St. Lawrence waterway from Canadian viewpoint least expensive carriage (including quotations from various Canadian newspapers), 22 (10):36-37.

The Welland Canal, based largely on the report of the engineerin-charge at St. Catherines, Ont., 22 (12):14-15. St. Lawrence outlet by sections, 23 (6):13, 14.

What hinders the St. Lawrence sea-way? 24 (12):18. December 1929.

Comments:

This article presents New England's argument for the seaway as given by Henry I. Harriman, president of the Boston Chamber of Commerce, in "New England and the St. Lawrence Seaway."

FARRER, EDWARD. The St. Lawrence route and the Manitoba grain trade. Canad. Mag. 11:371-380. September 1895. Comments:

A discussion of the reasons for the great bulk of Manitoba export wheat being shipped from U. S. ports instead of from Montreal, and the possibility of keeping its carriage at home.

FAWCETT, WALDON. The canals of Canada. Sci. Amer. 84:89-90, illus. Feb. 9, 1901. Contents to be noted:

Map showing the Canadian system of locks and canals on the Great Lakes and the St. Lawrence River, p. 90.

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(340)

(341)

(342)

FAWCETT, WALDON. Continued.

Comments:

"The tremendous commercial and industrial development which has lately been inaugurated in many different directions in the Dominion of Canada is chiefly and directly traceable to the opening of the system of enlarged canals."

The water transportation of grain. Sci. Amer. 82:232-233.

Apr. 14, 1900.

Comments:

"The grain grade of the United States, or rather that phase of it which is embraced in the transportation of grain from the harvest fields of the Northwest to the seaboard, is in...a transitory stage. Some radical new methods... are just being introduced... there has been a sudden development within the past year or two of new ports of export."

FENNELLY, JOHN F. Inland waterway fallacies. Commerce and Finance
15:1127-1128. June 9, 1926.

Comments:

Reprinted in Citation 4, p. 95-99.

[FERGUSON, G. H.] Ontario would help in development of St.

Lawrence power. Canad. Engin. 45:497. Nov. 13, 1923. (345)

Comments:

Extracts from the address of the Premier at a Conservative banquet in Toronto.

FERGUSON, S. N. Y. power authority yardstick too short for Hartford conditions. Elect. World 104:956. Nov. 24, 1934. (346)

FINCH, RCY G. Advantages of New York State barge canal. Port of New York 5 (4):6-7. April 1926. (347)

In this article State Engineer Finch states the case of New York against the St. Lawrence route to the sea.

Editorial comment, p. 15-16.

FINCH, V. C. The world's great rivers; the St. Lawrence. Jour. Geogr. 10:119-122. December 1911. (348)

FINNEY, RUTH. The St. Lawrence treaty. Nation 135:119-121.

Aug. 10, 1932.

(349)

Comments:

Sidelights on the new St. Lawrence Treaty from an American point of view.

FITZPATRICK, F. W. Dog-in-the-manger. New Repub. 22:285. Apr. 28, 1920.

(350)

(351)

Comments:

Arguments for the waterway and criticism of New York's attitude.

[FORWARD, E. A.] Canada's share in development of the St. Lawrence.
Canad. Engin. 45:435. Oct. 23, 1923.
Comments:

Excerpts from the address of a consulting engineer before the Engineering Institute of Canada. Montreal branch.

"The three principles enunciated were: National ownership from the lakes to the sea; development as and when the occasion may demand in the interests of Canadian trade and commerce; the paramount importance of navigation interests over all others in the St. Lawrence."

Navigation and power on the St. Lawrence. Mechanical Engin. 50:512-516, illus., maps. July 1928. (352)

Contents to be noted:

Transportation problems.

Character of traffic.

Possible savings in cost of carriage.

Improvements now claiming attention.

Combined navigation and power development.

The international section.

The Canadian section.

Comments:

A poper presented at a joint meeting of the Metropolitan Section of the A. S. M. E. and the New York sections of the A. S. C. E. and the A. I. E. E., at New York, Mar. 6, 1928.

The maps show the section of the river between Lake Ontario and Montreal and an enlargement of the international section.

FORWARD, E. A. St. Lawrence River power development. Canad. Engin. 54:490-492, 509-510. May 1, 8, 1928.

(353)

Contents to be noted:

Ship channel- Montreal to the ocean; Ship channel improvement; development of power; regulation of lake levels; compensating works; the ice handican; falls at rapids sections; international section of river; U. S. Engineers recommendations; drown out St. Lawrence rapids; Canadian section of river; cost per horsepower; control and ownership; prospective power requirements. Comments:

A paper presented at the Third Midwest Power Conference at Chicago, Feb. 14-17, 1928.

The St. Lawrence waterway. Engin. Inst. Canada Jour. 6:489-498. November 1923.

(354)

FRANCIS, WALTER J. Mechanical canal locks in Canada. Engin. News 58:61-64. July 18, 1907.

(355)

Comments:

An excellent account of the Peterborough hydraulic lock on the Trent canal, with a more brief statement concerning the hydraulic lock of Kirkland, from a paper read before the Canadian Society of Civil Engineers.

FRANKLIN. N. S. Gt. Lakes-St. Lawrence treaty. N. J. Municipalities 11:15-18. February 1934.

(356)

FREEMAN. R. E. The St. Lawrence-Great Lakes deep waterway. Nineteenth Century and After 97:815-822. June 1925. Comments:

(357)

An excellent presentation of the different attitudes adopted toward the project by the various sections affected.

The article is reprinted in Citation 4, p. 47-58.

FRY, VARIAN. The St. Lawrence waterway dispute. Scholastic 24 (1):17, 18, 30, illus., map. Feb. 3, 1934. (358)Comments:

An impartial survey of the situation, giving arguments pro and con.

FUESSLE, NEWTON. The brawn of the St. Lawrence. Outlook 133:226-229. Jan. 31, 1923. (359)Comments: "An interview with an American hydroelectric engineer [Hugh L. Cooper] who claims that he can save the United States fifty-four million tons of coal annually." FULLER, G. G. Low water cause of losses by St. Lawrence. Weekly Underwriter 131:970. Nov. 24, 1934. (360)FULLERTON, AUBREY. Straightening out the Great Lakes. Tech. World Mag. 19:755-757. July 1913. (361)Comments: The proposal to effect a short-cut from Montreal to Georgian Bay. GAGE, EARLE W. Builders of Beauharnois; modern engineers uncork St. Lawrence River and erect immense power plant. Prof. (362)Engin. 14 (11):9-11, illus., map. November 1929. Comments: "With the Lachine section of the St. Lawrence deepened, Canada will have completed her part of the St. Lawrence waterway route for the passage of large vessels. The new Welland Ship Canal, linking Lakes Erie and Ontario, brings Great Lake craft out into the St. Lawrence, and these newer projects finally blaze the way to the Atlantic. This silent, unsung method of throwing open the waterway is Canada's answer to the propaganda that her leaders are opposed to the St. Lawrence project."

Lakes. Prof. Engin. 15 (8):4-6, 23, map. August 1930. (363)
Comments:

A favorable account of the project.

The map illustrates the division of tasks as suggested by Canada and agreed to in principle by the United States.

GARD, WAYNE. The wheat belt looks seaward. North Amer. Rev. 233: 419-424. May 1932. Comments:

The economic advantages to be gained by the Middle West through the construction of the proposed waterway.

(364)

[GARDNER, HORACE C.] "The Great St. Lawrence." Power 51:1060. (365)June 29, 1920.

Comments:

Mainly excerpts from the address of the president of the Great Lakes-St. Lawrence Tidewater Association before the Chicago section of the American Society of Mechanical Engineers on June 8, 1920, on the possibilities of the St. Lawrence River from the standpoint of navigation and power development.

- The St. Lawrence River project. Mech. Engin. (New (366)York) 42:509-512, 527. September 1920.

Contents to be noted:

The present freight situation.

Past improvements and progress.

Recent progress.

Advantages of St. Lawrence River route.

Hydroelectric resources.

Comments:

Abstract of the address noted in Citation 365. The article also appears with the title, "American View of the St. Lawrence Project, " in Canad. Engin. 39:385-388 (Sept. 30, 1920).

Reviews:

Charles Whiting Baker, "Extending Ocean Navigation to the Great Lakes," in Mech. Engin. (New York) 42:592 (October 1920).

For a summary of this criticism, see Engin. and Contract. 54:478 (Nov. 10, 1920).

_ What America needs- and why. Illus. World 37:657-661, (367)785, 787, illus., maps. July 1922. Comments:

The author says that "America needs inland seaports- an uninterrupted flow of commerce to the rest of the world through the Great Lakes-St. Lawrence Waterway." gives reasons why this waterway is needed.

GAY, HELEN. Down stairs by water to the sea. Travel 65 (3):28-32, 49-50, illus. July 1935. (368)

An illustrated description of a trip down the Welland Canal, Lake Ontario, and the St. Lawrence to Halifax.

GIBB, SIR ALEXANDER. The St. Lawrence deep waterway. Roy. Eng. Jour. 47:216-230, illus., maps. June 1933. (369)

Comments:

A lecture delivered at the S. M. E., on Nov. 3, 1932 by Sir Alexander Gibb, G. B. E., C. B., M. Inst. C. E., F. R. S. E. "If I may sum up my own views, I would say that I think there is no doubt that an expansion of coastal traffic as between, particularly, Canada's Atlantic coast, and Newfoundland, and the Great Lakes, will follow the construction of the St. Lawrence Deep Waterway. In certain directions, too, new services will be created; British Columbia timber will be delivered direct into the Lakes and a certain class of small European tramp vessel will be found on the Lakes when business is brisk. British coal tramps, too, will undoubtedly make their way into the Lakes. But, generally, I am satisfied that the ocean vessel can never compete with the lake freighter, and I believe that, provided the right policy prevails at Montreal, that port may become even more important in the future by developing in a great transhipping port, and entrepôt."

Geogr. Jour. 82:286 (September 1933).

GIBBS, LEONARD H. The St. Lawrence waterways project. Current Affairs (Boston) 12 (50):7, 11. May 1, 1922.

Comments:

(370)

An abstract of the address of State Senator Leonard H. Gibbs of Buffalo, N. Y., before the Chamber members, opposing the project.

GILBERT, GILBERT H. The St. Lawrence valley. Outlook 132:249-251.
Oct. 11, 1922.

(371)

Comments:

Reviews:

The views of an engineer who favors the St. Lawrence seaway.

Reviews:

Hermann de Selding, "The St. Lawrence Route," in Outlook 132:734 (Dec. 27, 1922) for the views of a ship-owner and transportation operator.

For Gilbert's reply, "The St. Lawrence or the Hudson?," in Outlook 133:325 (Feb. 14, 1923).

GOFORTH, WILLIAM WALLACE. The economic consequences of the St. Lawrence project; a Canadian view. Queen's Quart. 35:148-155. October-December 1927

(372)

Comments:

The author states that his study "encourages the view that the best interests of Canada would be served not by considering the navigation aspects of the scheme, but its power potentialities as of paramount importance."

GOODRICH, JAMES P. Why the west demands access to the sea. Chamber of Commerce of the State of New York Monthly Bull. 15 (7):46-55. February 1924. Comments: Abstract from the address of an ex-governor of Indiana before the N. Y. State Chamber of Commerce. Reprinted in Citation 4, p. 79-91.	(373)
GOW, CHARLES R. The Great Lakes-St. Lawrence tidewater project. Current Affairs (Boston) 12 (46):18, 29, 34. Apr. 3, 1922. Comments: The author, a prominent construction engineer, a director of the Chamber and president of the Associated Industries of Massachusetts, favors the project. The article is reprinted in Swedish-Amer. Trade Jour. 16:124-127 (April 1922).	(374)
[GRAHAM, GEORGE P.] St. Lawrence canal. Traffic World 34:190, 192. July 25, 1924. Comments: An explanation by the Minister of Railways and Canals of the machinery set up in Canada for the investigation of the project.	(375)
GREATER NEW YORK. Governor Miller riddles the St. Lawrence dream; chief executive of New York State charges that a fund of \$100,000 has been raised for the purpose of influencing Congress and that "log-rolling" is being attempted. 10:10-13. Dec. 5, 1921.	(376)
International St. Lawrence ship canal approved. 8 (8):14. Feb. 24, 1919. Comments: Comments of opponents of the waterway.	(377)
Summary of arguments against St. Lawrence plan. 11:6-7. Mar. 20, 1922.	(378)
Why the St. Lawrence canel is impracticable. 11 (6):1-7. Feb. 6, 1322. Comments: The Commission created by New York State in 1920 to represent it at hearings before the International Joint Cammission on	(379)

relation to the	rs between the United Stane St. Lawrence canal proted by the engineers of t	oject analyzes the	
	should the Government subpers who use waterways? one 1932.		(380
conal"; a syr subject. Por Comments:	STUART and others. "The mposium from eminent authors to and Terminal 6 (5):5-1 of advocates of both the	orities on the 0, 24. June 1926.	(381
GREENEBAUM, W. K.	awrence route. St. Lawrence waterway an 10:79-80. March 1924.	d U. S. marine.	· (382
GREENWOOD, E. Pow Pub. Utilitie	er trust, the politician, s Fortnightly 5:410-420.	and the plunder-bund. Oct. 1, 1931.	(383
and its requiillus., mep. Comments: "The most the volume of completion of afford an all direct from Comports."— p. The author	important future developme the Chicago water-borne the proposed St. Lawrence water route for vessels hicago to the Atlantic se	ent which may affect commerce is the se Ship Channel to of modern dimensions and coast and to foreign	
Chicago.			

(385)

HANSEN, G. J. The St. Lawrence waterway. Traffic World 50:1206. Dec. 17, 1952.

HARBESON, R. W. Transportation developments and the North Atlantic ports. Harvard Business Rev. 12:82-93. October 1933. Comments:

(386)

A review and analysis of certain prospective transportation developments, including the St. Lawrence waterway, the Welland Canal, and the Oswego gateway, which promise to affect the relative economic position of New York, Philadelphia, Baltimore, and Boston.

In the discussion of the St. Lawrence waterway, p. 83-85, the author considers only its possible bearing on the important grain trade of the North Atlantic gateways and on the port differentials.

HARDING, W. L. Cornbelt wants an ocean. Successful Farming 27 (1): 9, 52. January 1929.

(387)

Comments:

A former governor of Iowa tells why he thinks the St. Lawrence waterway is needed.

Moving the Atlantic inland. Agr. Rev. 17 (1):2, 13. January 1924.

(388)

Comments:

An address before the Seventeenth International Farm

Congress at Kansas City in October 1923.

The author's conclusion is that "the way to solve our transportation question is to open the St. Lawrence for ocean-going vessels, shorten the rail haul, reduce it so that we will not be handicapped by an extra one thousand miles."

HARRIMAN, HENRY INGRAHAM. The St. Lawrence project. Amer. Inst. Elect. Engin. Jour. 41:866-870. November 1922.

(389)

Comments:

A discussion of the favorable effect of the proposed waterway on the nation as a whole, and upon New England and the port of Boston, by a member of Chase & Harriman, Inc., Boston, Mass., presented before the A. I. E. E. at Chicago on Apr. 21, 1922.

The St. Lawrence project and New England. Current Affairs 11 (38):1, 25, 27, 29, 31, 32; (39):8, 21, 25, 27, 29, 31, 32. Jan. 24, 31. 1921.

(390)

HAPRIMAN, HENRY INGRAHAM. Continued.

Comments:

The extent and scope of the proposed waterway improvement, and its probable effect upon the railroads, public utilities and manufacturing industries of New England as the writer views it. The benefits which New England's domestic and foreign commerce would derive from the proposed artery and answers to many of the objections raised by those opposed to the project.

Criticism of Mr. Harriman's views by William H. Chandler.

The St. Lawrence River project. Boston Soc. Civ. Engin.
Jour. 8:43-49. January 1921.

Comments:

A discussion of the power possibilities of the project with particular reference to New England, and its effect on domestic and foreign commerce.

Reviews:

Abstract in Elect. World 77:114-115 (Jan. 8, 1921), and in Engin. and Contract. 55:235 (Mar. 9, 1921).

Water power league speaker praises St. Lawrence plan.
Power 55:281. Feb. 14, 1922.
Comments:

(392)

(391)

Discussion by E. H. Sargent of the N. Y. State Water Power Commission.

HARTSHORNE, RICHARD. The significance of Lake transportation to the grain traffic of Chicago. Econ. Geogr. 2:274-291, illus. April 1926.

(393)

Contents to be noted:

Factors affecting receipts at Chicago.

Factors affecting shipments from Chicago (the markets; transportation routes; local facilities).

Summary of analysis of grain traffic.

Advantages of lake transportation (minor importance of receipts of grain by lake; relative importance of lake shipments; marked fluctuations in lake shipments; the trend in lake shipments).

Comments:

The author is a former member of the staff of the Chicago River Bridge Survey.

HAUTESERVE, LOUIS D'. L'avenir du port de Montréal en corrélation avec divers facteurs de l'économie générale du Canada. L'Actualité Économique May 1927, p. 37-147.

(394)

Comments:

The future of the port of Montreal with special reference to the Hudson Boy Railroad, the canalization of the St. Lawrence River, and the Georgian Boy Canal.

HAWKIN, R. C. President Hoover's shipway: an Anglo-American unemployment scheme. Contemporary Rev. 137:480-484.

(395)

HAYFORD, JOHN F. The best use of the waters of the Great Lakes. Sci. Monthly 19:588-597, map. December 1924.

(396)

Comments:

Approval of the St. Lawrence project by the late dean of the school of engineering of Northwestern University.

HEATH, S. B. St. Lawrence development faces many impediments. Elect. World 98:149-152. July 25, 1931.

(397)

St. Lawrence power study reveals distribution costs. Elect. World 98:289-293. Aug. 15, 1931.

(398)

HENRY, PHILIP W. The Great Lakes-St. Lawrence waterway. Geogr. Rev. 17:258-277, maps. April 1927.

(399)

Contents to be noted:

Introductory statements; international relations; engineering reports; the drainage basin; Chicago drainage canal; right to divert water; Lakes-to-Gulf waterway; effect of Chicago diversion on power; effect of Chicago diversion on water levels; other causes affecting lake levels; restoration of lake levels; the St. Lawrence waterway; cost of improving Great Lakes-St. Lawrence waterway; recommendation for construction and operation. Comments:

There are maps of the following: Great Lakes and St. Lawrence river drainage basins; the Somitary District of Chicago; the Chicago drainage canal, and the Illinois waterway; St. Lawrence River between Lake Ontario and Montreal showing the five natural divisions.

See also the article by the same author listed in Citation 89. Reviews:

Courtenay De Kalo, in Manfra. Rec. 91 (23):75-76 (June 9, 1927).

HILL, HENRY W. The proposed St. Lawrence ship canal and power project is uneconomic, unconstitutional and unAmerican. N. Y. State Waterways Assoc. Ann. Rept. and Proc. 1925: 93-106.

(400)

Comments:

A statement by the president of the M. Y. State Waterways Association, and his address before the National Rivers and Harbors Congress, Dec. 9, 1925.

Excerpts reprinted in Citation 4, p. 99-110.

 States waterways and the proposed St. Lawrence ship canal and power project. N. Y. State Bankers Assoc. Proc. 1923: 159-212.

(401)

Comments:

The author is opposed to the project.

St. Lawrence power. Mech. Engin. 50:516-518, illus. HOGAN, JOHN P. (402)July 1928.

Comments:

A consideration of the economies of independent power development apart from any expense borne by navigation, by a member of Parsons, Klapp, Brinckerhoff & Douglas, presented at a joint meeting of the metropolitan section of the A. S. M. E. and the New York sections of the A. S. C. E. and the A. I, E. E., at New York, Mar. 6, 1928.

[HOLGATE, HENRY.] Assails St. Lowrence scheme. Canad. Engin. 47:367. Sent. 23, 1924.

(403)

Comments:

An editorial account of the strong opposition to the St. Lawrence deep waterways, power and navigation scheme voiced at a meeting of the Board of Trade in Montreal.

- Discussion on "transportation routes." Canad. Engin. 45:250-253. Aug. 21, 1923. Comments:

Discussion of a paper by F. W. Cowie on "Transportation Routes in Canada" before the Montreal branch, E. I. C., emphasizing canalization of the St. Lawrence River, and the difficulties met in navigating the Hudson Bay route.

"I am strongly in favor of the early development of power on the St. Lawrence River, keeping in mind the prior rights of navigation and protecting these rights in every possible way, and during construction of the power works, making suitable provision for future locks."

- 911 -

(ftOft)

HOLGATE, HENRY. Opposed to waterways project. Canad. Engin. 47:612. Dec. 16, 1924.

(405)

Comments:

Excerpts from remarks before the Kinsman Club of Montreal by a consulting engineer of that city who says the deep waterways project is unsound but he favors development of power on the St. Lawrence River.

St. Lawrence River and the Great Lakes. Canad. Engin. 45: 208-211, 229-232. Aug. 7-14, 1923.

(406)

Comments:

In the first instalment the author deals at length with the drainage area of the Great Lakes and gives some interesting figures showing the remarkable regularity of the flow of the St. Lawrence River. He also reviews the treaties which have been made between Great Britain and the United States, showing how they affect any scheme of power development that may be proposed for the St. Lawrence River. The origin of the International Joint Commission and the development of the canal systems are also considered.

The second instalment deals more particularly with the growth of canal navigation, economical size of ships, and economic features of the St. Lawrence waterways project.

Commented on by Henry K. Wicksteed, 45:318 (Sept. 11, 1923).

The upper St. Lawrence River; its international history, development of navigation, and future possibilities.

Canad. Soc. Civ. Engin., Trans. 25:302-313. January-June 1911.

(407-408)

Comments:

"The development of power can only be held to be incidental, the real motive must be the improvement of navigation."

The subject is discussed on p. 314-334.

and J. A. JAMIESON. St. Lawrence project condemned.
Railway Age 83:147-150. Jan. 11, 1930.

(409)

HOOVER, HERBERT CLARK. A national policy in development of water resources. Engin. & Contract. 65:187-192. October 1926.

(410)

HOOVER, HERBERT CLARK. Continued.

Contents to be noted:

The Great Lakes System, p. 188-189.

Comments:

Same article in Municipal & County Engin. 71:251-256 (October 1926).

Excerpts in Elect. World 88:442-443 (Aug. 23, 1926). and Manfrs. Rec. 90:75-76 (Sept. 9, 1926).

A national system of waterways. Natl. Rivers and Harbors Cong., Proc. (1925) 21:16-26.

(411)

Contents to be noted:

Introductory.

The Mississippi system.

Great Lakes system.

Economic distortion affects our farmers.

Mid-west industry affected.

Waterways will assist to overcome this economic distortion.

Improved construction of waterways.

Improvements in craft.

Comparative cost of water-borne wheat.

Distribution of population.

Completion of whole.

Mississippi system necessary for lowest rates.

Conclusion.

Comments:

See also the articles by L. G. Macomber, W. L. Harding, J. Hampton Moore, Henry W. Hill, p. 31-36, 53-56, 59-60, 77-86.

Opening the St. Lawrence. Farm Jour. 51 (5):13, 46.

April 1927. (412)

President Hoover at completion of Ohio River channel indicates plans for development of inland waterways.

Commercial & Financial Chron. 129:2622-2623. Oct. 26, 1929. (413)

Comments:

An address at Louisville, Ky., Oct. 23, at a celebration signalizing the completion of the nine-foot channel of the Ohio River from Pittsburgh, Pa. to Cairo, Ill.

Concerning the St. Lawrence waterway, President Hoover said: "'One of the most vital improvements to transportation on the North American Continent is the removal of the obstacles in the St. Lawrence River to ocean-going vessels inward to the Great Lakes. Our nation should

[HOOVER, HERBERT CLARK.] Continued. undertake to do its part whenever our Canadian friends have overcome those difficulties which lie in the path of their making similar undertakings.!" Reviews: Railway Age 87:961 (Oct. 26, 1929). Bradstreet's 57:693 (Oct. 26, 1929).	•
Canad. Engin. 46:635. June, 24, 1924.	(414)
Extracts from Mr. Hoover's reply to the address of welcome.	
Waterways the farmer's need. Country Gent. 91 (3): 3-4, 98, 99, illus., map. March 1926. Contents to be noted:	(415)
See especially "The Great Lakes Bottled Up," p. 4, 98. Comments:	
"The farmer of the Middle West rightly calls loudly for the opening of the Lakes to the sea. When a territory of 35,000,000 of people demand something, it will be forth- coming."	
from ocean to Great Lakes ports. Marine Rev. 62 (8):8, 20. August 1932. Comments:	(416)
Comments by President Hoover and Prime Minister B_{e} nnett on the occasion of signing the treaty.	
HUBBARD, E. K. St. Lawrence waterways. Natl. Assoc. Manfrs. Pocket Bull. 27:9-10. May 1927.	(417)
HUGHES, HUGH J. Rerouting via the St. Lawrence. Country Gent. 86 (16):1-2, 22, illus. Apr. 16, 1921.	(418)
Comments: "The future of the Middle West depends on cheaper outlets to market."	
The St. Lawrence cut-off. Amer. Rev. of Reviews 61: 630-631, map. June 1920.	(419)

HUGHES, HUGH J. Ships on the Great Lakes. Pub. Utilities Fortnightly 14:321-327. Sept. 13, 1934.

(420)

Comments:

Despite the rejection by the United States Senate of the treaty with Canada, the author believes that three uncontroverted facts point to the completion of the St. Lawrence seaway in the immediate future. These facts are: The seaway is an engineering possibility; the cost of the seaway will be inconsiderable as compared to its benefits; the seaway is necessary to the well-being of both nations interested in its development.

--- What of the St. Lawrence? Nation's Business 15 (11): 66-67, 68, 70. October 1927.

(421)

Contents to be noted:

Freedom of the seas for West. Canal needed- but where?
St. Lawrence now fevored.
Electricity can cut cost.
The Commission's report.

Comments:

The author, former assistant executive director of the Great Lakes-St. Lawrence Tidewater Association, gives "the remote and immediate background of events leading up to the present negotiations."

HUNGERFORD, EDWARD. The St. Lawrence waterway. Country Gent. 89 (39):12, 29. Sept. 27, 1924.

(422)

Comments:

Herbert Hoover's investigation of the shipway.

HUNT, HARRY E. How the Great Lakes became "high seas," and their status viewed from the standpoint of international law.

Amer. Jour. International Law 4:285-313. April 1910.

(423)

HUNTER, J. H. The St. Lawrence deep waterways. Munic. Rev. of Canada 26:21-22. January 1930.

(1124)

HUOT, LOUIS. Beauharnois power works. Canad. Geogr. Jour. 3:295-315, illus., map. November 1931. (425)

Comments:

The canal between Lakes St. Francis and St. Louis on the St. Lawrence above Montreal which, with a drop of 83 feet in 15 miles, will supply 2,000,000 H.P.

The author is a journalist on the staff of the Montreal Gazette.

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INDEPENDENT. The waterway to wealth; engineers' plan to join the Atlantic and Great Lakes by an all-American ship canal. 116: 213-216, illus. Feb. 20, 1926.

(426)

INDEX. Inland waterway development. December 1929, p. 190-192. Contents to be noted:

(427)

St. Lawrence waterway, p. 192.

____ The St. Lawrence waterway; a highly controversial navigation and power project. 13:159-164. September 1933.

(428)

Contents to be noted:

Joint Board's findings.

The St. Lawrence Commission.

Report of Canadian committee.

The navigation project.

Water power project.

Conflict of opinions.

Project's value conjectural.

Comments:

"Expenditure of from half a billion to a billion dollars or more on the navigation and power development project can be justified only if it is clearly demonstrated that the project will be economically profitable. This has not yet been done."

Same in Commerce & Industry, September 1933, p. 12-14.

INDUSTRY. Executive committee of associated industries of Massachusetts declares for Great Lakes-St. Lawrence waterway and power project. 9:1-5. Mar. 18, 1922. (429)

INNIS, H. A. Transportation as a factor in Canadian economic history. Canad. Polit. Sci. Assoc., Papers and Proc. (1931) 3:166-184. (430) Reviews:

Social Sci. Abs. 4:12574 (August 1932).

IRON AGE. St. Lawrence seaway arouses apprehension in steel trade; foreign competition would be accentuated it is feared—likewise would disturb domestic market relationships. 130:153.

July 28, 1932. (431)

Comments:

"The St. Lawrence project is not to be discouraged simply because on its face it might hurt the steel or any other industry. Remedies to overcome the injury must be applied."

JACKMAN, 7. T. Canada's weal not fostered by St. Lawrence waterway plan. Pailway Age 92:599-602. Apr. 9, 1932.

(432)

Comments:

"An abstract, greatly abridged, of a comprehensive analysis of this project from a Canadian point of view, presented before the Toronto Railway Club on March 7."

The author, a professor of transportation at the University of Toronto, holds that the cost estimates on the proposed St. Lawrence shipway are too conservative; that utilization of the waterway by ocean-going ships would not be economical and the farmer would benefit but little; and that tolks should be collected on the shipway, if constructed, in order that costs of construction and maintenance may be defrayed.

The St. Lawrence waterway project. Canad. Polit. Sci. Assoc., Papers and Proc. 4:213-244. 1932. Coments:

(433)

"A careful, economic appraisal of the costs of the proposed waterway, and a presentation of the arguments for and against the project."

Discussion by Lesslie R. Thomson and W. A. Mackintosh, p. 245-257.

JAMES, W. K. President's annual address. Agr. Rev. 16(10):9, 13-14.
November 1923.

(434)

Comments:

The president of the International Farm Congress discusses the opening of the St. Lawrence River on p. 13-14. He says that if "the thousand mile rail haul from the lake regions to the Atlantic could be avoided and be carried by rail from place where produced to the lake ports and transferred direct from car to vessel, and vessels then take their cargoes to ports on the Atlantic, in Western Europe or along the Mediterraneanthe American farmer would receive 8 to 10 cents more per bushel for the grain so exported."

See also in the same number, p. 10, the resolutions concerning inland waterways adopted by the International Farm Congress of America.

JESSUP, PHILIP C. The Great Lakes-St. Lawrence deep waterway treaty.

Amer. Jour. Internatl. Low 26:814-819. October 1932.

Comments:

A legal discussion of the St. Lawrence International Rapids Section Commission which gives the nature of the Commission and the solution of problems arising from judicial proceedings.

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(435)

JOHNSEN, JULIA EMILY. A St. Lawrence deep sea waterway? A brief for debate. Our World Weekly 2:152-153. Apr. 6, 1925. (436) Contents to be noted:

References, p. 153.

Comments:

A brief for a debate on the question: Resolved, That the United States and Canada should jointly improve the St. Lawrence River between Lake Ontario and Montreal for navigation and power, in accordance with the recommendation of the International Joint Commission.

JOHNSTON, J. T. Water power situation in the St. Lawrence region.

Canad. Engin. 43:359-361, map. Sept. 19, 1922. (437)

Contents to be noted:

Relation to the St. Lawrence water development.

6,077,427 undeveloped horse power within 300 miles of Long

Sault exclusive of undeveloped St. Lawrence power.

Probable demand for power.

Map showing available water power in Canada within 300 miles of the Long Sault omitting undeveloped power in the St. Lawrence, p. 360.

JOHNSTONE, B. L. The St. Lawrence waterway project. Independent 108:299-300. Mar. 25, 1922. (438)

A favorable statement based on the report of International Joint Commission.

JONES, CLARENCE F. The grain grade of Montreal. Econ. Geogr.
1:53-72, illus. March 1925. (439)
Contents to be noted:

Reasons for Montreal's importance as a grain shipping port. The points of concentration of grain at the head of the Great Lakes.

The routes of grain shipment from the head of the Great Lakes to Montreal.

The all water route.

The lake and rail routes.

The all rail routes.

The facilities for handling, the method of handling, and the cost of transfer of grain in Montreal.

The influence of available ocean tonnage, ocean freight rates, and insurance rates on the movement of grain through the port.

Conclusion.

JONES, CLARENCE F. Continued.

Comments:

The dominant activity of the port of Montreal is the movement of grain in transit to northwestern Europe from the Prairie Plains of Canada and the corn and spring wheat belts of the United States.

KAPPLIN, A. B. The tragedy of inadequate transportation. Pon-Amer. Mag. 36:229-230. December 1923.

(1440)

Comments:

Reprinted in Citation 4, p. 69-72.

[KELLY, WILLIAM]. Geology of St. Lawrence basin must be known in detail before further investigation. Power 50:310. Aug. 19, 1924.

(441)

Comments:

The opinion of Col. William Kelly, chief engineer of the Federal Power Commission and member of the St. Lawrence Joint Engineering Board, who believes the need for St. Lawrence power is imperative.

The St. Lawrence waterway. Mechanical Engin. 50: 509-512, illus. July 1928.

(1442)

Connents:

A paper presented at a joint meeting of the metropolitan section of the A. S. M. E. and the New York sections of the A. S. C. E. and the A. I. E. E., at New York, Mar. 6, 1928, by the vice-president of the Buffalo, Piagara & Enstern Power Corp.

Particulars are given of the waterway itself and its five sections, of the improvements recommended by the Joint Board of Engineers of the United States and Canada, and of ice conditions which will have to be overcome in order that the full power conacity of the river may be utilized.

KENNEDY, W. P. M. St. Lowrence treaty, administrative tribunals, comparative law. South African Law Times 1:219, 221. October 1932.

(443)

KENSIT, H. E. M. The cost of a power site on the St. Lawrence River. Canad. Engin. 63 (5):13-14. Aug. 2, 1932. Comments:

(4)4)

Factors entering into the cost of developing power, and an analysis of Besuharnois development costs.

KENSIT, H. E. M. Market for St. Lawrence River power; electric energy will be utilized by the time power is available from St. Lawrence development. Canad. Engin. 61 (24):11-12. Dec. 15, 1931.

(445)

Comments:

The author was formerly with the Dominion Water Power and Hydrometric Bureau, Ottawa.

KING, FRANCIS. The problem of the upper St. Lawrence. Queen's Quert. 36:2-19. January 1929.

(446)

Comments: With the completion of the New Welland ship canal the question of the development of the upper St. Lawrence assumes increased interest. The author holds that four things have transformed the question into one of the first magnitude, namely, a realization that traffic would some day outgrow the existing St. Lawrence canals; the ripening of the thought that something more could be cut from the freight rate on grain to the sea and put in the pocket of the western farmer; a real demand for more electrical energy in Eastern Ontario; and the complaints of the effect of currents developed in the canals by utilization of canal water for power purposes. He also reviews the history of the negotiations between Canada and the United States and the reports of the commissions and concludes that the demand for power seems to result in greater pressure for the development of the river than the shipway.

The article has also been issued as Queen's Univ. Dept. of Hist. and Polit. Econ. Sci. Bull. 57. 18 p. (January 1929).

— The upper St. Lawrence. Queen's Quart. 27:379-395, map. April, May, June 1920. Comments:

A discussion of the question of making the St. Lawrence navigable to ocean going ships.

"The Upper St. Lawrence," in Amer. Rev. of Reviews 62:93-94 (July 1920), consists for the most part of quotations from this article.

KINGMAN. D. C. Engineering aspect of a deep-water route from the Great Lakes to the ocean. Military Serv. Inst. U. S. Jour. 16:276-294. March 1895.

(448)

(447)

Comments:

The military importance of an all-American route from the Great Lakes to the ocean.

KMAPPEN, THEODORE M. Another transportation revolution! Mag. Wall Street 37:1086-1038, map. Apr. 10, 1926.

Comments:

The inland waterways system and what it will mean to our commerce. Effect on the railways.

St. Lawrence waterway development of momentous consequence . Mag. of Wall Street 42:820-822, 878, 879, 380, man. Sept. 8, 1928.

(450)

Contents to be noted:

Canadian aspect; effect on agriculture; reduction in cost of transportation and handling; power development; the negotiations between Canada and the U. S.; probable outcome of the waterway improvements.

LAMB, H. J. Great Lakes engineering problems. Canad. Engin. 47:289-292, 315-318, illus., maps. Sept. 2, 9, 1924. Contents to be noted:

Charting of lakes system.

Establishment of aids to navigation.

Construction of harbors.

Canal and lack construction.

Improvement of connecting channels.

Character of structures employed.

Effect of work on traffic.

Improvement of the connecting channels.

Traffic features.

Comments:

An address by the supervising engineer for the Ontario, Dominion Department of Public Works, before the engineering section of the British Association for the Advancement of Science, Toronto, Aug. S, 1924.

LAMOREUX. C. A. The Great Lakes St. Lawrence waterways project. Wis. State Bar Assoc., Proc. (1922) 14:161-167. Comments:

An address before the State Bar Association of Wisconsin

at Fond du Lac on June 27, 1922.

"In view of the importance of having available at all times a route which will enable the producers of the Great Northwest to market their products expeditiously and economically at the moment of greatest demand, the opening of this deep-water route is regarded as of national importance and fully justified for this purpose alone."

Reprinted with the same title in Citation 4, p. 72-79.

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(449)

(451)

(452)

[LAMOREUX, C. A., and others]. St. Lawrence deep sea waterway? An outline for debate. World Rev. 4:8-10. Feb. 7, 1927. Contents to be noted:

(453)

General references, p. 8; 9.

Affirmative brief, p. 8; negative brief, p. 9.

Comments:

Resolved: .That the United States and Conada should jointly improve the St. Lawrence River between Lake Ontario and Montreal for navigation and power, in accordance with the recommendations of the International Investigating Committee.

For the affirmative, C. A. Lamoreux of the Wisconsin Bar Association and William Nelson Pelouze, chairman of the Illinois Commission for the Great Lakes-St. Lawrence waterway.

For the negative, R. A. C. Smith, chairman of the New York Committee on Inland Waterways, and Alfred E. Smith, governor of the State of New York.

LANDRETH. O. H. Why the all American waterway is essential: analysis made showing advantages over the Canadian route. Port and Terminal 8:7-9. July 1928.

(454)

LANE E. W. The improvement of the river St. Lawrence. Engineer 125:62-63, 114-116, 117, 125-128, maps. Jan. 20-Feb. 3, 1928. (455)

Summary of the report of the Joint Board of Engineers.

LAUT, WALLACE J. A new Great Lake to save lakes. Dearborn (456)Independent 26 (1):15, 26-27, map. Oct. 24, 1925. Comments:

A proposal of a young Canadian engineer and explorer to create a new Great Lake, more than twice as large as Ontario, in a basin, ready-made in the wild regions north of Lake Superior, by erecting "a few dams" and diverting "a river or two that now flow into Hudson Bay," and cutting a short southward canal.

Excerpts from this article appear with the title, Sixth Great Lake," in the Lit. Digest 88 (1):17-18 (Jan. 2, 1926).

Both the original article and the excerpts have a map showing where another great lake might be made.

LAWRENCE, HENRY. Waterway problems on the Canadian boundary. Foreign Affairs (New York) 4:556-573. July 1926. Comments:

(457)

The author is a Canadian expert on boundary questions.

LEA, R. S. St. Lawrence power and navigation development. Canad. Engin. 47:255-256, 265, 277-283. Aug. 19, 26, 1924. (458) Comments:

An address before the engineering section, British Association for the Advancement of Science, Toronto, Aug. 8, 1924.

Also available with title, "Development of the St. Lawrence River for Power and Navigation," in Engineering 118:239-241, 271-273 (Aug. 15-22, 1924).

The St. Lawrence power and navigation development.
Ontario Hydro Elect. Power Comm. Bull. 11:423-434, 459-474.
November, December 1924.

(459)

LE BOURDAIS, D. M. Canada and the St. Lawrence plan. New Repub. 57:159-161. Dec. 26, 1928. Comments:

(460)

The author, formerly editor of the Canadian Nation and contributor of articles to various magazines on political and economic subjects, holds that "Power and politics are the two factors, so far as Canada is concerned, that will eventually determine the fate of the St. Lawrence Waterway scheme."

[LEE, JOHN C. H.]. Engineering features of the St. Lawrence waterway; what the proposed Great Lakes to the ocean route means in the way of construction- preliminary outline of work to be done. Engin. News-Rec. 85:786-788. Oct. 21, 1920.

(461)

Comments:

Extracts from an address by a major in the Corps of Engineers, U.S.A., before the Western Society of Engineers.

Also available with title, "Some Engineering Features of the St. Lawrence Canalization Project," in Canad. Engin. 39:536-538 (Nov. 18, 1920).

Engin. 13:27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, illus., maps. January-February 1921.

Comments:

(462)

A review of the factors and conditions involved in the project, and a consideration of the opinions of eminent public men on the question.

LEE, W. S. Beauharnois development of the St. Lawrence River. Elect. Engin. 52:377-384. June 1933.

(463)

LEFEBURE, OLIVIER. La canalisation du Saint-Laurent. L'Action Française 8:291-297. Novembre 1922. Comments:

(464)

A hostile discussion from a French-Canadian point-of-view.

LEWIS, ALEX C. St. Lawrence canalization and power project. Canad. Engin. 39:496-498. Nov. 4, 1920. Comments:

(465)

An address by the secretary of the Canadian Deep Waterways and Power Association at a meeting of the Hamilton branch of the Engineering Institute, Oct. 26, 1920.

"The question of improving the means of navigation in the St. Lawrence River so as to permit ocean vessels to enter and navigate the Great Lakes, and at the same time to develop more than 4,000,000 h.p. of electrical energy which is now going to waste in the St. Lawrence River rapids, is the most important matter which has been brought before the people of Canada since Confederation. It furnishes the solution of the present transportation difficulties of Canada and the United States and will do more to stabilize costs and lower the cost of living than any other remedy which has yet been suggested or discussed."

LINDBLAD, ANDERS F. St. Lawrence waterway is needed. Marine Rev. 52:327-329. August 1922.

(466)

Comments:

An assistant professor of naval architecture and marine engineering at the University of Michigan holds that the "entire country will benefit from providing deep water route from Lakes to Ocean."

LITERARY DIGEST. First blood in the shipway war. 92 (3):10-11.

Jan. 15, 1927.

(467)

Comments:

Excerpts from contemporary items in the daily press on the occasion of **Secr**etary Hoover's recommendation to Congress in favor of building the St. Lawrence shipway.

Ocean ports for inland states. 67 (7):19-20, map. Nov. 13, 1920.

(468)

LITERARY DIGEST. Opening guns in the St. Lawrence seaway fight. 114 (5):4-5, map. July 30, 1932. (469)Comments: A survey of newspaper comments for and against the project. opening the gate of the Great Lakes. 66 (7):26-27. (470) Aug. 14, 1920. Comments: Largely excerpts from an article in Power Plant Engineering (Chicago). The President's St. Lawrence setback. 117:8, map. Mar. 24, 1934. (471)Comments: The reaction to the Senate's refusal to ratify the treaty. -- The St. Lawrence route seaward. 64 (12):112. Mar. 20, (472)1920. Comments: An extensive excerpt from editorial in Engineering News-Record (N.Y.). - To make our Great Lake ports ocean ports. 72 (11):16-18, 69, 70, 71. Mar. 18, 1922. (473)Comments: Excernts from contemporary items in the daily press. - Waterway; still a dream. 121 (12):9. Mar. 21, 1936. (474)Comments: "The Great Lakes-St. Lawrence Waterway Conference which closed a two-day meeting in Detroit last week adopted a resolution commending President Roosevelt for his work for the project, but tabled a motion demanding immediate ratification of the 1932 treaty with Canada.... President Roosevelt, in a message to the conference, attributed the delay to an opposition which feared competition in the generation of electric power." LOVELAND, CHARLES P. Solving the problem of St. Lawrence navigation. Canad. Engin. 42:189-191. Jan. 31, 1922. (475)Contents to be noted: Shortcomings of schemes so far proposed; navigation value of side canals questioned; two stage development on international

section favored, by the president of the Great Lakes & Atlantic

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Canal & Power Co.

LYDE, L. W. St. Lawrence ship waterway. Natl. Rev. 91:780-784. (476)July 1728. MCCATROLL, WILLIAM. Will it lower the cost of living? Amer. (477)Bankers Assoc. Jour. 14:489-491. January 1922. MACDERMOTT, T. W. L. Indifference blocks St. Lawrence seaway. Washington (D.C.) Post Dec. 13, 1934, p. 9. (478)MCDOUGALD, W. L. St. Lawrence waterway project is practical, necessary, urgent. Toronto Bd. Trade Jour. December (479)1928, p. 10-11/. MACELWEE, R. S. Beauharnois power and navigation canal. Natl. Waterways 10:17-27, 57. February 1931. (480) MACGIBBON, DUNCAN ALEXANDER. Economic aspects of the proposed St. Lawrence shipway. Queen's Quart. 36:449-467. Summer 1929. (481)Contents to be noted: The total cost of the enterprise. Expected savings in transportation rates. Expected volume of traffic. Summary of results. The incidence of costs and of benefit. Comments: A clear and comprehensive survey of the economic side of the St. Lawrence waterway scheme by the head of the department of economics at the University of Alberta. Also issued as Queen's Univ., Dept. of History and Polit. and Econ. Sci. Bull. 58, 19 p. (July 1929). MACKENZIE, NORMAN. Canadian-American relations. Canad. Bar (482)Rev. 12:479-490. October 1934. Comments: An address before the Chicago Council on Foreign Relations, concerning the Canadian attitude toward the development of the St. Lawrence River. The author, a professor at the University of Toronto, says, "In the main, I would say that Canadians approve of it in principle.... The real question, to my mind, that seems to cause concern to the Canadian people is whether at this time, in view of our financial difficulties and our great burden of

MACKENZIE, NORMAN, Continued.

public and railway debts, we should saddle curselves with further heavy expenditures and incidentally provide another competition for our harassed railways. However, given agreement for this proposal by the United States, I believe that Mr. Bennett and the Canadian Government and the Canadian people generally are prepared to support it and to assist in completing it."

[MCLACHLAN, D. W.] Proposals for St. Lawrence development. Canad. Engin. 45:551-552. Dec. 4, 1923. Comments:

(483)

Extracts from an address by the engineer in charge of surveys for the proposed St. Lawrence ship canal at the annual dinner of the Peterboro branch of the Engineering Institute of Canada, Nov. 20, 1923.

A further statement of the author's position is given in his letter to the editor, 45:596 (Dec. 18, 1923).

(484)

Comments:

An editorial account of Citation 483.

The St. Lawrence River problem; important features of various projects for the improvement of the St. Lawrence River for power and navigation. Engin. Jour. 7:119-141, illus., maps. March 1924.

(485)

Contents to be noted:

International status.

Division no. 1, from Montreal harbour to deep water in Lake St. Louis.

Division no. 2, deep water in Lake St. Louis to foot of Lake St. Francis.

Division no. 3, Lake St. Francis to foot of Cornwall Island.

Division no. 4, St. Regis to Prescott.

Ice conditions.

Double development projects.

Possible modification of official plan.

Modification of plans for geographical system of dividing costs.

Division no. 5, Prescott to Lake Ontario.

Economy of waterway project.

Practicability of waterway.

Calculations of future channel slopes in open season.

MCLACHIAN, D. W. Continued.

Comments:

Discussion, 7:142-146, 289-290 (March, June 1924). A paper read before the annual general and general professional meeting of the Engineering Institute of Canada, Ottawa, Jan. 24, 1924.

Wooten-Bowden scheme versus hydro proposals for St. Lawrence development. Canad. Engin. 42:115-116. Jan. 3, 1922.

(486)

Comments:

Comment on the Wooten-Bowden report on the proposed improvement of the St. Lawrence, and synopsis of reports of the Hydro Electric Power Commission of Ontario, and Hugh L. Cooper, of New York, and the editorials of Oct. 6 and Nov. 24.

MCLEAN, S. J. The St. Lawrence route. Railway Age 43:274-276, 308-310, 342-344, 563-565, maps. Mar. 1, 8, 15, Apr. 5, 1907. (487) Contents to be noted:

The canal section.

Competing routes, the Georgian Bay canal and the Trent Valley canal.

The traffic arriving at Montreal, and the facilities of Montreal harbor.

The St. Lawrence ship canal.

[MAGUIRE, C. ALFRED]. St. Lawrence power scheme; representatives of various municipalities visit Ottawa to urge Government to proceed with power development at Morrisburg, Ont. Canad. Engin. 46:167-168. Jan. 22, 1924. Comments:

(488)

A deputation headed by the mayor of Toronto and president of the Municipal Electric Association of Ontario.

MAIN, CHARLES T. The Great Lakes-St. Lawrence River ship channel.

Tech. Engin. News 5:218-219. January 1925. (489)

MANNING, GEORGE H. Status of the St. Lawrence waterway project.

Manfrs. Rec. 92 (3):81-82. July 21, 1927. (490)

MANUFACTURER'S RECORD. The Mississippi first. 101:20/. September 1932.	(491)
National rivers and harbors congress endorses Hoover's waterways program. 96 (25):62-63. Dec. 19, 1929. Comments: Champions of the St. Lawrence waterway project were Senators Smith W. Brookhart and Thomas J. Walsh. Opposition was voiced by Senator Royal S. Copeland.	(492)
New England wants the St. Lawrence waterway but opposes an all-American waterway from the Lakes to New York- the Manufacturers Record favors both. 91 (26):59-60. June 30, 1927. Comments:	(493)
"The Great Lakes-St. Lawrence waterway project has been considerably advanced by its endorsement by the joint New England St. Lawrence waterway committee. Thirty prominent business men of the New England States, headed by Charles R. Gaw of Boston as chairman, after three years of study, unanimously recommended early negotiations with Canada looking to the construction of the seaway." The article consists largely of excerpts from the Committee's report. Senator Royal S. Copeland's reply to the report is also given.	
MARINE NEWS. Against the St. Lawrence water treaty. 21:20-21. February 1935.	(494)
Errors in the Roosevelt seaway survey. 20:18. February 1934.	(495)
Royal S. Copeland defender of the commercial rights of the coastal ports of the United States. 20:18-19. March 1934.	(496)
13,213,833 tons of cargo to be turned from U. S. ports to Canada. 20:29. February 1934.	(497)

MARINE REVIEW. Delegates convene to speed St. Lawrence waterway. 62 (1):40. January 1932.

(498)

Comments:

An account of a meeting of officials and delegates of fifteen inland states and governors of eight with the Great Lakes-St. Lawrence Tidowater Association at Chicago on December 3.

Lake carriers opposed to St. Lawrence waterway. 63 (1): 32. January 1933.

(499)

Comments:

"At the conference held by the National Transportation committee in New York, Dec. 7, the Lake Carriers association, a body representing American vessel owners on the Great Lakes, presented a memorandum [prepared by L. C. Sabin] stating its views in opposition to the building of the St. Lawrence waterway...." The article is devoted to financial returns and a summary of the objections.

Treaty is signed for deep waterway from ocean to Great Lakes ports. 62:84. August 1932.

(500)

MARKHAM, E. M. Port development on the Great Lakes for the accommodation of traffic through the proposed St. Lawrence shipway and the Lakes to the Gulf waterway. Canad. Engin. 65(15):15-18. Oct. 10, 1933.

(501)

Comments:

A paper presented at the meeting of the American Association of Port Authorities in Toronto, Sept. 4-9, 1933.

Editorial comment, (18):15. (Oct. 31, 1933).

MARVIN, THEODORE. The Great Lakes-St. Lawrence deep waterway. Explosives Engin. 10:305-312, illus., maps. October 1932. Contents to be noted:

(502)

The waterway and its advantages; base plans on years of study; the route when completed; some of the problems involved; specifications of the project; the President's statement.

MASON, GREGORY. Moving the corn belt to the sea. World's Work 55:308-317, illus. January 1928.

(503)

Comments:

"What the St. Lawrence waterway will do for the West."

MEAD, DANIEL W. Water power development of the St. Lawrence River. Amer. Soc. Civil Engin. Proc. 61:517-522 April. 1935.	(504)
Water power development of the St. Lawrence River; with cost data. Amer. Soc. Civil Engin. Proc. 59:965-996, 1482-1503, 1651-1653. August, November, December 1933.	(505)
and T. H. HOGG]. St. Lawrence River power development. Canad. Engin. 65 (5):11-12. Aug. 1, 1933. Comments:	(506)
An account of papers by Professor Daniel V. Mead of the hydraulics department of the University of Wisconsin on "An Analysis of the Proposed Official Plans for Water Power Development and the International Section of the St. Lawrence River," and Dr. T. H. Hogg, chief hydraulic engineer, Ontario Hydro-Electric Power Commission, on the engineering features of the proposed waterway at the meeting of the power division of the American Society of Civil Engineers in Chicago.	
MEERENDRE, E. KERVYN DE. La canalisation du Saint-Laurent et le port de Montréal. Bulletin Commercial de Belgique 54:65-69. Jan. 14, 1935.	(507)
MERRILL, HENRY F. The Great Lakes-St. Lawrence tidewater project. Current Afrairs 12 (46):19, 24-25, 28. Apr. 3, 1922. Comments:	(508)
Also in Swedish-Amer. Trade Jour. 16:148-152, 173 (May 1922). Also issued separately with title, Great Lakes-St. Lawrence Waterway Would Hurt New England; reprint Institute of American Business Bull. 5, 6 p. (Apr. 5, 1922).	
METCALF, JESSE H. The St. Lawrence River folly (speech). Marine News 21:24. February 1935.	(509)
MICHIGAN MANUFACTURER'S AND FINANCIAL RECORD. All-American channel for Detroit River; initiation of project for deep waterway which will make Great Lakes-to-the-sea cut useful for Detroit's industry. July 21, 1928, p. 3-4.	(510)

MICHIGAN MANUFACTURER'S AND FINANCIAL RECORD. The Great Lakes and the seaway; from Michigan to the sea, by C. P. Craig; the valves of the waterway; an all-American channel of the	
Detroit River. Nov. 28, 1931, p. 1-6.	(511)
[MILLER, NATHAN L.] "Look before you leap" warns Governor Miller. Greater New York 11 (11):1-11. Mar. 13, 1922. Comments:	(512)
"In joint debate on the St. Lawrence ship canal project before the National Rivers and Harbors Congress New York executive shows that so far only a superficial examination of the plan has been made— Governor Allen and Mr. H. H. Merrick represent west."	
MILLIS, JOHN. Nature's preparations for deep water harbors on the Great Lakes. West. Soc. Engin., Jour. 27:26-32. January, 1922.	(513)
Water borne transportation inland and marine. West. Soc. Engin., Jour. 27:287-293, map. October 1922. Comments: "An endeavor will be madeto review briefly some of the practical engineering and physical considerations	(514)
that come to the front when we regard Chicago as a great commercial center for which water-borne transportation has quite a special interest."	
MINNESOTA FEDERATION OF ARCHITECTURAL AND ENGINEERING SOCIETIES. Great Lakes to ocean waterways. Bull. 12:11-15. December 1927.	(515)
MITCHELL, C. H. St. Lawrence waterway development. Bd. Trade Jour. (Toronto) 16:1,14-19. May 1926.	(516)
The St. Lawrence waterway project. Toronto Univ. Faculty of Applied Sci. and Engin., Engin. Soc. Trans. 1928:23-37.	(517)
MITCHELL, JAMES. Deep waterways movements; their origin and progress in Ontario. Ontario Hist. Soc., Papers and Rec. (1922) 19:134-136. Contents to be noted:	(518)
The Welland Canal; The Georgian Bay ship canal; the Huron and Ontario ship canal; the Georgian Bay canal and	

MITCHELL, JAMES. Continued.

power aqueduct; the international deep waterways association; the great waterways union of Canada; the national waterways association of Canada; the Canadian deep waterways and power association; the Great Lakes and Atlantic canal and power company; the French River improvement; the Great Lakes-St. Lawrence Tidewater Association.

MOREAUX, A. O. St. Lawrence now about to come to Minnesota; always sea road for early trade. Minnesota Diamond Jubilee History, St. Paul Sunday Pioneer Press, Dec. 31, 1933, p. 9 B.

(519)

Comments:

The chairman of the Great Lakes-St. Lawrence Tidewater Commission of Minnesota reviews the history of the route for three centuries and states that the "ratification of the pending Seaway Treaty is the insistent need of the hour."

[MOULTON, HAROLD G.] Transportation aspects of the St. Lawrence waterway. Railway Age 86:661-662. Mar. 23, 1929. Comments:

(520)

A synopsis of an address before the Traffic Club of Chicago on Mar. 21, 1929.

(===)

MUNICIPAL AND COUNTY ENGINEERING. Question raised as to cost and value of power available in projected St. Lawrence canal. 65:129-131. September 1923. Comments:

(521)

Originally published by the Buffalo, N. Y., Chamber of Commerce.

NATION. Another power fight ahead. 137:722-723. Dec. 27, 1933. Comments:

(522)

An attack on "the strong lobby which is forming against the development of the St. Lawrence River for the benefit of the public. It is now evident that a secretly directed campaign has begun not only to see to it that the public does not get cheaper current from the greatest electric development planned on this continent, but actually to have the project carried out at government expense and then detoured to the enrichment of private interests."

NATION. [Masked attack by power interests of New York State.] 138:142. Feb. 7, 1934.

(523)

Comments:

An editorial statement that "the utility companies have this winter made a flank attack at Washington, where they have tried to defeat the entire waterway project, although concealing their real purpose by basing their opposition nominally on navigational aspects of the scheme."

A national waterway. 138:89-90. Jan. 24, 1934. Comments:

(524)

A discussion of the fight against the Great Lakes-St. Lawrence waterway in Congress, with the statement that "there is evidence that the opposition- nominally against the waterway as a navigation project- is actually a covert attack upon the power development contemplated in the scheme, made by utilities interests of New York and neighboring States which see their monopoly and their oppressive rates threatened by government-produced electric current."

NATIONAL PETROLEUM NEWS. Inland waterways systems of the United States, completed and proposed; map. 27 (42):[insert] 32 A. Oct. 16, 1935.

(525)

Comments:

This folded map was prepared from data in the office of the Chief of Engineers, War Department, Washington, D. C.

NEW REPUBLIC. Hoover, Roosevelt and the St. Lawrence. 71:302-303. Aug. 3, 1932.

(526)

Comments:

"From the beginning the New York State and federal governments have held divergent views of the development of the St. Lawrence. To Washington it has been primarily a waterway project... To Albany, on the contrary, it has been first of all New York's great water-power project. This divergence is unmistakably implicit in the correspondence on the subject between Governor Roosevelt and President Hoover....

"Without an agreement between New York and the federal administration, similar to that in Canada, as a basis for future congressional action, the St. Lawrence treaty, so far as this country is concerned, is an incomplete thing."

The St. Lawrence project (editorial). 29:298-300. Feb. 8, 1922.

(527)

Comments:

Reprinted in Citation 3, p. 19-20.

NEW YORK. CHAMBER OF COMMERCE OF THE STATE OF NEW YORK. An economic survey of St. Lawrence waterway before treaty ratification. Report and resolutions submitted at the regular monthly meetin; held Apr. 6, 1933. Chamber of Commerce of the State of N. Y. Monthly Bull. 24:545-547.	
April 1933.	(528)
Negotiations on St. Lawrence water power. Report and resolutions submitted at the regular monthly meeting held Apr. 6, 1933. Chamber of Commerce of the State of N. Y. Monthly Bull. 24:542-545. April 1933.	(529)
Opposing the St. Lawrence canal project. Report and resolutions submitted at the regular monthly meeting held Oct. 6, 1932. Chamber of Commerce of the State of N. Y. Monthly Bull. 24:185-201. October 1932.	(530)
The St. Lawrence waterway project pro and con. Chamber of Commerce of the State of N. Y. Monthly Bull. 12 (3):1-7. October 1920. Comments: Excerpts reprinted in Citation 4, p. 123-127. The arguments are taken from the hearing before the International Joint Commission in New York, Oct. 19-21.	(531)
Some facts on Canadian grain traffic. Prepared by William H. Coverdale. Chamber of Commerce of the State of N. Y. Monthly Bull. 24:393-408. January 1933. Comments: Supplement to Chamber's report, "Opposing the St. Lawrence canal project," Oct. 6, 1932.	(532)
NEW YORK TIMES. Smith puts canal up to congressmen. Mar. 16, 1926, p. 27. Comments: Reprinted in Citation 4, p. 119-123.	(533)
Smith urges State to give barge route for the ship canal. Mar. 9, 1926, p. 1, 4.	(534)
Text of waterway data sent to the Senate. Jan. 24, 1.934, p. 12.	(535)

NEW YORK TIMES. Wilbur endorses all-American canal. Mar. 9, (536)1926, p. 4. NEWS-WEEK. Treaty: oratorical floodgates open after Roosevelt's plea for action on St. Lawrence project. 3 (3):8-10, illus., (537)map. Jan. 20, 1934. Comments: Extracts from the President's message and report to the Senate concerning the waterway project, and a discussion of the steps leading to the treaty, the problem of costs, and the opposition of Senator Robert F. Wagner. (538) NOR -WEST FARMER. St. Lawrence project. 41:1108. Nov. 20, 1922. Comments: "Some objections to the undertaking, with reasons why it should not be proceeded with at present." NOURSE. EDWIN GRISWOLD. The farmer's interest in the Great Lakes-St. Lawrence waterway project. Jour. Farm Econ. 11:1-23. (539)January 1929. Contents to be noted: What is claimed. Probable cost of the waterway. How much would the farmer gain? The probable saving per bushel. Indirect gains. Would livestock products benefit? Would there be other benefits? Discussion by W. E. Grimes. Rejoinder by E. G. Nourse. - Investment or gold brick? Successful Farming 27 (2):7, 44, 64. February 1929. (540)OUTLOOK. St. Lawrence power. 157:128-129. Jan. 28, 1931. (541)Comments: Discussion of the report of the St. Lawrence Power Commission, appointed by Governor Franklin D. Roosevelt, on authorization of New York's Republican-controlled Legislature. St. Lawrence waterway; conclusions of the commission of economists. 145:105. Jan. 26, 1927. (542)

OUTLOOK. The St. Lawrence waterway (editorial). 138:310. Oct. 29, 1924.	(543)
The St. Lawrence waterway (editorial). 138:624-625. Dec. 17, 1924.	(51,14)
PAN-AMERICAN MAGAZINE. The Great Lakes-St. Lawrence waterway and power project. 36:221-228, maps. December 1923.	(545)
The inland vaterways system of the United States. 42: 165-167, map. Movember 1929. Comments: Quoted statements of President Hoover, including his views on the Great-Dakes-to-the-Sea phase of the inland waterways program. Pro.	(546)
New England joins the West in support of St. Lawrence project. 142:131-136. July 1928. Comments: From the Detroit News.	(547)
PARDEE, JOHN STONE. From the Great Lakes to the sea. Natl. Mag. 51:239-210. October 1922. Comments: The assistant director of the Great Lakes-St. Lawrence Tidewater Association tells of New England's relation to the St. Lawrence waterway project.	(548)
PARKINS, A. E. A comparison of transportation on the Mississippi Basin rivers and the Great Lakes. Jour. Geogr. 16:201-210. February 1918. Contents to be noted: Types of boats. Geographic influence (influence of depth of waterways; influence of changes in depth of water). Differences in wharves, docks, and crews (influence of storms; influence of physical condition of waterways on types of government improvements; influence of the type of commodities carried).	(549)
Decline in river traffic and reasons. Characteristics of lake navigation. Lake and river navigation contrasted.	

PARSONS. H. DE B. The St. Lawrence deep waterway project. Canad. Engin. 47:519-521. Nov. 18, 1924. (550)Comments: An analysis of problems arising out of the proposal to develop power and improve the navigation facilities by a consulting engineer of New York City, and a discussion of the paper by F. C. Shenehon, presented at the Detroit meeting of the American Society of Civil Engineers. The St. Lawrence ship canal needs further study. Greater (551)New York 11:1-6. Apr. 10, 1922. PATTON, M. J. The water-power resources of Canada. Econ. Geogr. 2:168-196, illus. April 1926. (552)Comments: A survey of Canadian water-powers by the economist of the Natural Resources Intelligence Service of Canada. The St. Lawrence River power is considered on p. 181-182. PELOUZE, WILLIAM NELSON. Great Lakes-St. Lawrence waterway. Manfrs. News 27 (14):7, 18, 28, 31. Apr. 4, 1925. (553)Comments: The chairman of the Illinois Deep Waterway Commission begins by stating that "the solution of the transportation problems in this country lies in the development of our waterways, and the greatest of these waterway developments is the Great Lakes-St. Lawrence route to the sea." - and R. H. AISHTON. The Great Lakes-Saint Lawrence s-away project. Nation's Business 21 (2):20-23, 59, 60, 62, map. February 1933. (554)Comments: The case for and against. R. H. Aishton is chairman of the executive committee of the Association of Railway Executives. PERKINS, EDMUND T. Advantages of the Great Lakes-St. Lawrence Waterway. Munic. and County Engin. 59:56-58. August 1920. (555)Comments:

The author is a consulting engineer and vice-president

of the Mississippi Valley Association.

PETERSON, ELMER T. Kansas wants an ocean. Outlook 141:44-45.

Sept. 9, 1925.

Comments:

"Kansas wants an ocean. At least it wants an ocean brought one thousand miles nearer. And Kansas believes that the completion of the Great Lakes project will do that."

(556)

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PILLSBURY, GEORGE B. Regulation of levels, flow, and navigation, Niagara river: summary and conclusions of various studies.

Amer. Soc. Civil Engin. Trans. 95:51-84, illus. 1931.

Comments:

The factors relating to the regulation of the Niagara River are summarized, and the studies made by various agencies of the regulation of Lake Erie are described. The conclusion is that the results of these studies have not indicated the advisability of regulating the flow of the Niagara River.

The author is Brigadier-General and Assistant Chief of Engineers, U.S.A.

Reviews:

Social Sci. Abs. 4:19646 (December 1932).

The St. Lawrence waterway. Amer. Acad. Polit. and Social Sci. Ann. 142 (231):291-295. March 1929. Contents to be noted:

Engineering problems.

Improvement recommended.

Feasibility of navigation.

Well worth the expenditure.

The St. Lawrence waterway improvement. Mich. Engin. 45:42-48. September 1927.

PITTMAN, KEY. Down to the sea- chearly; an argument for the St. Lawrence waterway. Today 1:9-10. Mar. 3, 1934.

[PLATT, EDMUND]. Former Reserve head condemns seaway plan. Railway Age 93:161. July 30, 1932. Comments:

Extracts from a letter by a former vice-governor of the Federal Reserve Board to the New York Times.

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PLUMMER, HARRY CHAPIN. St. Lawrence ship channel improvements; constructing a 35-foot channel between Montreal and Quebec. Sci. Amer. 109:182-183, illus., map. Sept. 6, 1913.	(562)
POWER. Another chapter in St. Lawrence River power development. 71:128-129. Jan. 28, 1930.	(563)
New York Water Power Commission advocates immediate development of St. Lawrence power. 61:239. Feb. 10, 1925. Comments: Power development should not be dependent on navigation; possibilities of more diversion; revision of treaty needed.	(564)
President appoints St. Lawrence River Commission of the United States. 59:508. Mar. 25, 1924. Comments: "In commenting on the appointment of the St. Lawrence Commission, Mr. Hoover explained that the commission's work will be confined entirely to a study as to the proper time to undertake the development of the stream. There is no longer a question, he said, as to the advisability of developing both the waterway and the power resources of the river. The only question is when the work should begin." Also in Engin. News-Rec. 92:506 (Mar. 20, 1924).	(565)
St. Lawrence power lease for frontier co-project plans \$200,000,000 development. 63:835. May 25, 1926.	(566)
Settlement of Great Lakes-St. Lawrence power and navigation project in sight; correspondence between Great Britain and United States made public- Secretary Kellogg upholds Chicago diversion. 63:352. Mar. 2, 1926.	(567)
POWER PLANT ENGINEERING. Linking the Great Lakes to the Atlantic. 24:697-699, maps. July 15, 1920. Comments: A favorable discussion of the proposed waterway, including the power aspects.	(568)

POWERS, E. C. Transportation on inland waterways. Marine Rev. 61 (4):68-73; (5):22-28, 56; (6):30-36, 62, illus., map. April, May, June 1931. Comments: In the section on the St. Lawrence waterway project, (4):72-73, the following statement is made: "To any one who is keenly alert to the economic welfare of the country and the greatest good to the greatest number, improvement of the St. Lawrence is a very important step in virtually placing the great industrial middle west on salt water."	(569)
PREUS, J. A. O. The St. Lawrence deep waterway. Governors! Conf. Proc. 1922:79-84. Comments: The author was governor of Minnesota.	(570)
PUBLIC AFFAIRS. Should we build the St. Lawrence waterway? 3 (3):30. September 1924. Comments: Arguments for and against the project. "Yes", reprinted in Citation 4, p. 92-94.	(571)
PUBLIC UTILITIES FORTNIGHTLY. Breaking up a political honeymoon; debate on the ratification of the St. Lawrence treaty. 13:667-671. May 24, 1934.	(572)
Controversy over the St. Lawrence power project. 7:294-296. Mar. 5, 1931.	(573)
St. Lawrence project versus commission regulation. 16:215-220. Aug. 15, 1935.	(574)
RAILROAD GAZETTE. The canal system of Canada. 42:214-216, maps. Feb. 15, 1907. Comments: The Article is uncritical; it incorrectly states that J. J. Hill urged the Canadians to build the Trent Valley canal.	(575)
RAILWAY AGE. Buffalo C. of C. opposes St. Lawrence waterway. 93:714, 719, 720, 721. 1932. Comments: Economic value of the project declared "wholly speculative and conjectural" in the report of the Buffalo (N. Y.) Chamber of Commerce, reproduced in this article.	(576)

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RAILWAY AGE. Inland waterways an unfair form of competition: Government subsidies, rates devoid of cost considerations, freedom from regulation constitute insuperable handicap	
for roads. 93:815-318, illus. Dec. 3, 1932.	(577)
N. Y. C. of C. opposes St. Lawrence project. 93:548, 553-554. Oct. 15, 1932. Comments:	(578)
An abstract of a report of the New York Chamber of Commerce which concludes that "the St. Lawrence caral is economically unsound, commercially unwise, and politically inadvisable."	
N. Y. merchants oppose St. Lawrence waterway. 92:260-261. Feb. 6, 1932.	(579)
President urges approval of St. Lawrence treaty;	
ratification of the waterway pact is requested in message to Senate on January 10. 96:47. Jan. 13, 1934. Comments:	(580)
Also in Marine Rev. 64:12 (February 1934).	
Roosevelt shows great enthusiasm for waterways. 97:180-181 Aug. 11, 1934.	(581)
St. Lawrence waterway construction found not justified.	
87:241-245. July 27, 1929.	(582)
St. Lawrence waterway described as waste of money. 93:	
741-743. Nov. 26, 1932.	(583)
Comments: Hearings before the Senate Foreign Relations Committee.	
Comments: Hearings before the Senate Foreign Relations Committee.	
Comments:	(584)
Comments: Hearings before the Senate Foreign Relations Committee. St. Lawrence waterway opposed. Nov. 19, 1932, p. 701-702/. St. Lawrence waterway treaty. 93:874-876. Dec. 10,	
Comments: Hearings before the Senate Foreign Relations Committee. St. Lawrence waterway opposed. Nov. 19, 1932, p. 701-702/.	(584) (585)

RAILWAY AGE. St. Lawrence waterway treaty signed. 93:110, 114, 116. July 23, 1932. (586)

The historical background of the treaty and a summary of its provisions.

Seaway cost placed at \$1,350,000,000. 93:269. Aug. 20, 1932. Comments:

Peter G. Ten Eyck, chairman of the Albany (N. Y.) Port District Commission, discounts all lower estimates and defends Moulton figures before the Institute of Politics, Williamstown, Mass.

Feb. 10, 1934. (588)

Letter to Senator Reed of Pennsylvania from the Port of Philadelphia Ocean Traffic Bureau.

[RAINVILLE, J. H.] The St. Lawrence deep waterway. Canad. Engin. 62 (15):24-25. Apr. 12, 1932. (589)

The chairman of the Montreal Harbor Commission advocates the completion of the St. Lawrence deep waterway project, the deepening and widening of the 35-ft. channel from Montreal to the sea and that immediate steps be taken to reduce marine insurance rates on the St. Lawrence route to the level of the New York rates, in order to protect the business of the Montreal harbor, before the Montreal Association of Purchasing Agents.

RASOR, W. W. The Great Lakes-St. Lawrence seaway project. Pan-Amer. Mag. 42:157-164, illus. November 1929. (590)

[REID, J. D.] Former minister endorses St. Lawrence project.

Canad. Engin. 45:515. Nov. 20, 1923. (591)

Comments:

"Immediate action on the part of the Dominion Government furnishes the only solution to a satisfactory prosecution of the St. Lawrence waterways development, in the opinion of... [the] former minister of railways and canals in the Meighen government."

REILLY, EDWARD E. The proposed St. Lawrence waterway. Farmer's Advocate 64:1812, 1849, illus. Dec. 12, 1929.	(592)
A member of the department of economics at the University of Western Ontario gives a general discussion of the proposed waterway from the standpoint of time and cost and answers the arguments of those opposed to it.	
"Transportation facilitiesmust be developed in their most efficient form if Canada is to reach her possible place in world industry and trade. The benefit will increase with every increase in industry and trade, and	
it is the most favorable aspect of the proposed waterway."	
REVIEW. Unlocking the Great Lakes. 2:235-237. Mar. 6, 1920.	(593)
REVIEW OF REVIEWS. Public ownership of utilities. 91:18-24, illus. January 1935. Contents to be noted:	(594)
The St. Lawrence waterway and power project, p. 21-23.	
Comments: "St. Lawrence navigation at our expense would seem to	
have continuing importance as an asset of the British	
Empire. Its importance as an asset to the United States	
has vanished in thin air, with our loss of the artificial export business that continued for a few years after the	
War. Canada has no present need of St. Lawrence power development, and we have no need of the ocean waterway."	
ROBERTS, L. New industrial splendor. Canad. Mag. 75:94, illus.	
February 1931.	(595)
ROBERTSON, D. B. Opposition to St. Lawrence waterway treaty.	
Brotherhood of Locomotive Firemen and Enginemen's Mag. 94:21. January 1933.	(596)
The proposed St. Lawrence waterway. Brotherhood of	
Locomotive Firemen and Enginemen's Mag. 94:94-96. February 1933.	(597)
ROBY, HARRISON G. Government engineers report on St. Lawrence	(F0g)
waterway. Engin. News-Rec. 87:402-406. Sept. 8, 1921. Comments:	(598)
The principal assistant to the American Government engineer gives an abstract of the report of Col. W. P.	
Wooten and W. A. Bowden to the International Joint Commission.	

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ROCHELEAU, W. F. The Great Lakes as a waterway. Primary Education-Popular Educator. 44:218. November 1926.	(599)
ROOSEVELT, F. D. Text of message urging Senate to ratify treaty. Evening Star (Washington, D. C.) Jan. 11, 1934, p. A-4. New York Times Jan. 11, 1934, p. 13. News Week 3:8-10. Jan. 20, 1934.	(600)
ROUND TABLE. Canada: the deepening of the St. Lawrence. 72: 832-857. September 1928.	(601)
The Great Lakes deep waterway. 55:578-584. June 1924.	(602)
St. Lawrence deep waterway. 14 (55):578-584. June 1924. Comments: Reprinted in Citation 4, p. 42-47.	(603)
St. Lawrence deep waterway. 18(71):623-630. June 1928.	(604)
Comments: "Several issues have been raised, the importance of which was not foreseen originally by either opponents or advocates of the project, e.g., the question of how far Canada and the United States should co-operate in constructing the work, the problem of dividing costs, the relative merits of public and private ownership and distribution of power, and the rights of federal governments as opposed to provinces and States." A review of the progress of the project during the past two years.	(605)
The St. Lawrence waterway. 24:548-562. June 1934. Comments: "On July 13, 1932, after long deliberations, the St. Lawrence waterway treaty was initialled by the representatives of Canada and the United States. On March 14, 1934, ratification was refused by the Senate, the vote being 42 against to 46 in favour, 13 votes short of the two- thirds majority required by the American constitution [In this article] correspondents from the two countries explain their national viewpoints on this uninspiring defeat	(606)

explain their national viewpoints on this uninspiring defeat

ROUND TABLE. Continued.

of what...was a great international project. They show that opinion in both countries was sharply divided on the issue of the treaty, so that the Senate's action delighted many Canadians, just as it offended large blocks of opinion in the United States. The most that can be said in summing up the controversy, is that while perhaps the weight of sound argument was fairly evenly divided, the balance of prejudice undoubtedly lay against the treaty. Prejudice unmistakably won the day."— p. 548.

St. Lawrence waterway treaty. 23:184-190. December 1932. (607)

A discussion of the treaty from the Canadian point of view. The author states that "it may safely be said that Canadian advocates of the waterway were agreeably surprised, since ample concession seems to have been made on every point that could be raised by even the most zealous guardian of Canadian rights."

S., H. A. The St. Lawrence waterway treaty. British Year Book of International Law 15:150-151. 1934. (608)

Some comparisons and reflections suggested by the rejection of the waterway treaty by the U. S. Senate.

SABIN, L. C. Essential features of a lake port. Canad. Engin.
53:563-564. Nov. 29, 1927.

Comments:

Necessity for further study of economics of Great Lakes—St. Lawrence route emphasized in an address pointing out the essential features in the creation, development, and maintenance of lake ports.

An address by the vice-president of the Lake Carriers' Association before the annual convention of the Great Lakes Harbor Association held on Nov. 16-17 in Toronto, Canada.

Lakes pay U. S. large dividends. Marine Rev. 55:1-6.

January 1925.

Comments:

The economic importance of the waterway with attention to costs and the need of deeper channels.

SANDWELL, BERNARD K. American rights and the proposed St.

Lawrence canal. Nineteenth Century and After 103:468-474.

April 1928.

(611)

Comments:

A discussion of the factors affecting the rights of the United States and Canada involved in the proposed St. Lawrence deep waterway by a journalist and publicist, formerly a professor of English in Queen's University, Kingston.

Also printed in Living Age 334:1014-1019 (July 1928).

April 1929. (612)

The dangers and difficulties of making a treaty with the U.S.

From Chicago to the sea (by Canadian consent). Atlantic
Monthly 142:695-700. November 1928. (613)
Comments:

"The current discussions of the proposed St. Lawrence route from the Great Lakes to the sea make it imperative for Americans to take an account of the Canadian attitude toward this problem. Of that attitude this paper seems to give an unbiased expression."— p. 695.

The St. Lawrence canal: America's demands. Current Hist. 28:751-756, maps. August 1928. (614)

The St. Lawrence waterway. Canad. Geogr. Jour. 1:619-634, illus., maps. November 1930. (615)

A general discussion of the St. Lawrence waterway question. The accompanying illustrations show junction of Ottawa River and St. Lawrence from south shore; Cascade Rapids and lower entrance to Soulanges Canal; western entrance Soulanges Canal opposite town of Valleyfield; Coteau Rapids looking down stream, with Soulanges Canal on left and Canadian National Railways bridge in foreground; Long Sault Rapids looking down stream; entrance to Beauharnois Canal at Valleyfield; Cascade Rapids, village of Melochville and lower entrance of Beauharnois Canal, and lower entrance to Soulanges Canal; Cedar Rapids looking upstream; Long Sault Rapids and present Cornwall Canal on right; upper entrance to Lachine Canal; grain elevator at Montreal; old Welland Canal near Port Dalhousic.

SANDWELL, BERNARD K. Continued.

Sketch map of St. Lawrence River, showing existing canals and proposed canals which form part of the St. Lawrence waterway project.

Cross-sectional map of St. Lawrence River, giving details of the undertaking as outlined in the article.

Reviews:

Social Sci. Abstracts 3:3505 (March 1931).

Would a St. Lawrence treaty be valid. Willisons

Monthly 5 (3):10-11, 21. September 1929. (616)

Comments:

The problem of State vs. Federal power in the United States as related to a St. Lawrence treaty.

SATURDAY EVENING POST. Dubious economics. 206 (36):22. Mar.
3, 1934.

Comments:

An editorial which states: "No one denies that in the course of time some such development as the St. Lawrence seaway and power project may become desirable. But whatever the merit it may have in the distant future, there is the utmost haziness regarding any present necessity for undertaking an expenditure the exact total of which is in dispute, but which is certain to prove impressively large, for a purpose that is so indefinite."

The waterways question. 202 (20):32. Nov. 16, 1929. (618)

An editorial statement that "we feel certain that the spending of vast sums for elaborate waterways is not for the immediate future."

SAUNDERS, WILLIAM L. The St. Lawrence seaway. Amer. Inst. Elect.

Engin. Jour. 41:379-382. May 1922. (619)

Comments:

An address favoring the seaway presented at a joint meeting of the Boston sections of the American Institute of Electrical Engineers and the American Society of Mechanical Engineers, Boston, Mass., Jan. 24, 1922, by the chairman of the board of Ingersoll Rand Co.

Condensed under the title, "Possibilities of St. Lawrence Seaway," in Canad. Engin. 43:128-130 (July 11, 1922).

SAUNDERS, WILLIAM L. Trade route from the world ports to the Midland of North America. Mining and Metallurgy 179:11-13. November 1921.

(620)

Contents to be noted:

New Welland canal.

St. Lawrence route would lower freight rates.

Direct carriage from port of loading to destination.

Assuan dam to be model for those in St. Lawrence.

Comments:

Also issued as a separate (3 p.) by the Great Lakes-St. Lawrence Tidewater Association.

SCHOLASTIC. St. Lawrence treaty beaten. 24 (9):24. Apr. 7, 1934. (621)

SCIENCE. American Great Lakes harbors. 83: sup. 14. Mar. 6, 1936. (622)Comments:

An abstract of an article by Captain H. V. Canan, U. S.

Corps of Engineers, in the Military Engineer.

The article states that harbors on the American side of the Great Lakes are getting deeper and those in Canada are becoming shallower because the region about the Great Lakes is tilting about a "hinge line" which roughly is in the direction of 20 degrees west of north. The explanation for the land tilt is that the land to the north in Canada is still rising from the enormous squeezing which it received during the last Ice Age.

SCIENTIFIC AMERICAN. Engineer corps favor St. Lawrence canal (editorial). 136:164. March 1927. (623)

New York and the proposed St. Lawrence waterway (624)(editorial). 123:442. Oct. 30, 1920. Comments:

"We have already gone on record as being opposed, so far as New York State and City are concerned, to any diversion of effort from the recently completed barge canal to the proposed waterway through the St. Lawrence River. This does not mean that we are opposed to the St. Lawrence project as such. On the contrary, we believe that as an engineering project it is feasible and that commercially it will ultimately prove to be of great benefit not only to the Western States but to the State of New York and to the industrial centers which lie between the Erie Canal and the Canadian border."

SECOR, ALSON. Cornbelt towns on the sea. Successful Farming 20 (10):5, 72-73. October 1921.

(625)

Comments:

"The St. Lawrence deep waterway would put farmers one thousand miles nearer the market."

The Great Lakes-St. Lawrence waterway; telling why the Middlewest pays too much freight. Successful Farming 25 (4):13, 34-35, illus. April 1927. Comments:

(626)

mments:

The advantages of the proposed waterway to the Middlewest. Quotes from railroad men who have endorsed the project.

Seaports in the interior U.S. Successful Farming 20 (1):10, 80-81. January 1921. (627)

SELDING, H. DE. The St. Lawrence route. Outlook 132:734. Dec. 27, 1922. (628)

SHAW, ALBERT. St. Lawrence treaty rejected. Rev. of Reviews 89 (5):
42. May 1934.

Comments:

"Under existing conditions, the proposed investment in the so-called St. Lawrence Waterway would have promoted the trans-Atlantic commerce of Great Britain, but would not have been of appreciable benefit to the commerce of the United States. It would have cost the United States a large sum of money, and would have opened the Great Lakes to the British merchant marine, with Canadian products freely admitted to the British market on a favorable quota plan, while similar products from the United States are shut out.... When Canada finds herself fully at home in North America, and recognizes her joint responsibility with the United States for the peace, safety and prosperity of a continent that lies between the two great oceans, there will be ample time to undertake joint enterprises, of assured costliness but of less certain practical value."

The St. Lawrence waterway. Rev. of Reviews 89 (2):46. February 1934.

(630)

Comments:

An editorial stating that "Until proper trade relations are established by deliberate and far-seeing statesmanship

SHAW, ALBERT. Continued.

between Washington and Ottawa, we should do well to postpone projects like the St. Lawrence waterway, that can perhaps serve the purposes of the British empire, but can bring only scant return to the people of the United States."

SHENEHON, FRANCIS C. The inevitability of the St. Lawrence route to the sea. Munic. and County Engin. 63:208-211.

December 1922.

(631)

Comments:

The author is a member of the American Institute of Consulting Engineers, a member of the American Society of Civil Engineers, and past-president of the Detroit Engineering Society.

The St. Lawrence deep waterway to the sea. Amer. Soc. Civil Engin., Proc. 51:1237-1309, maps. September 1925. Comments:

(632-633)

A paper presented at the Detroit meeting of the American Society of Civil Engineers, Oct. 23, 1924. Also in Canad. Engin. 47:481-487, 501-506. Nov. 4, 11, 1924.

An abstract of the paper and the major points of the ensuing discussion are given in Power 60:781-782 (Nov. 11, 1924), in Engin. News-Rec. 93:712-713 (Oct. 30, 1924), and in Canad. Engin. 47:489-490 (Nov. 4, 1924).

Reviews:

Amer. Soc. Civil Engin., Proc. 51:1688-1717, 1873-1882, 1997-2004; 52:86-89, 282-288, 942-948 (October 1925-February, May 1926). Canad. Engin. 47:491 (Nov. 4, 1924). T. K. Hogg, in Canad. Engin. 47:479-480 (Nov. 4, 1924). L. C. Sabin, in Canad. Engin. 47:603-606 (Dec. 16, 1924). Herbert C. Sadler, in Canad. Engin. 47:477-478 (Nov. 4, 1924).

SHERIDAN, T. W. The proposed St. Lawrence seaway; a danger, a delusion and a snare. Commerce and Industry (Philadelphia) September 1932, p. 14-15. (634)

SIMPSON, WENDELL L. The proposed deep water-way from the Great Lakes to the ocean. Military Service Institution U. S. Jour. 15:1193-1202. November 1894.

(635)

Comments:

The importance of a deep waterway from a military point of view. Both the all-American and the St. Lawrence routes are mentioned.

SKERRETT, ROBERT G. Duluth to Liverpool in one bottom. Sci. Amer. 122:670, 686, maps. June 19, 1920. Comments:		(636)
The arguments advanced in favor of a deep-water route between the Great Lakes and the sea. Editorial on the proposed ship canal, p. 668.		
SMITH, H. A. The Chicago diversion. Canad. Bar Rev. 8:330-343. May 1930.		(637)
SMITH, KATHERINE LOUISE. Making seaports in the middle west. Independent 104:165. Oct. 30, 1920.		(638)
St. Lawrence outlet to the sea; a great project of interior development. Outlook 127: 340-342. Mar. 2, 1921.		(639)
SMYSER, WILLIAM LEON. Bringing the ocean to the prairies. Contemporary Rev. 144:210-219. August 1933. Comments: A discussion of the potentialities of the proposed		(640)
seaway. The author concludes by saying that "The farmer who has experienced much adversity in recent years, will be the principal beneficiary when— and if— sea—going ships begin to climb the St. Lawrence to fetch his products. And the people as a whole—the Anglo—American people of Canada and the United States— will also be beneficiaries. Trade between them will be stimulated, while at the same time imperial wares and colonial products will be given an open way to the very centre of North America, and profit accordingly. Not least significant should be, indeed, these new exchanges between still kindred countries."	er ²	en de aur
STARK, LOUIS. Cosgrove attacks St. Lawrence pact. N. Y. Times Aug. 9, 1932, p. 19.		(641)
STATIST. The proposed St. Lawrence seaway. 111:391-392. Mar. 10, 1928.		(642)
The St. Lawrence waterway. 120:189, 219. Aug. 6-13, 1932.		(643)

SUCHER, RALPH G. From the Great Lakes to the sea. Current Hist. 42:462-467, maps. August 1935.

(644)

Comments:

Some of the political questions in the United States which are bound up with the St. Lawrence seaway and power project.

TANGHE, RAYMOND. La canalisation du St.-Laurent. Revue Trimestrielle Canadienne (Montreal) 14:82-94. March 1928.

(645)

Contents to be noted:

Résumé du projet.

Le développement des forces hydro-électriques.

La réduction des taux de fret.

L'emploi des océaniques.

Le suppression des transbordements de Port-Colborne et de Montréal.

Les charges financieres.

L'aspect juridique.

Pour quoi Montréal s'oppose-t-il au projet?

Comments:

An able discussion of the project from the view point of Quebec Province.

TAYLOR, ALONSO E. Projected waterways in North America as related to export of wheat. Food Research Institute, Wheat Studies 8 (9):445-468. August 1932.

(646)

Contents to be noted:

Great Lakes-St. Lawrence seaway, p. 450-453. Contents:

"We hold optimistic forecasts of the early or deferred results to wheat growers to be unwarranted.... The St. Lawrence seaway would probably not reduce costs of shipments to Europe by over 5 cents a bushel during the season of open navigation, and the weighted annual saving on export wheats would be less. Whatever savings are made would be divided, in proportions varying from year to year, mainly between the growers of export wheats affected and European consumers.

"We see little prospect that the net gain to American wheat growers as a whole would be significant. Canadian wheat growers would stand to gain more, unless or until expansion of acreage wiped out the price benefit. The rate of expansion of wheat growing in the Prairie Provinces of Canada might be the determining factor. There is a fair possibility that, with expansion of acreage in Canada, farm prices of wheat in the United States might tend to be lowered by the opening of the St. Lawrence seaway."

TAYLOR, ALONSO E. Continued.

Extracts from the report are given with the title, "Waterways of Doubtful Benefit to Wheat Growers," in Railway Age 93:360 (Sept. 10, 1932).

Reviews:

Stuart Daggett, in Jour. Farm Econ. 15:408-409 (April 1933).

- St. Lawrence seaway. Will it raise the price of the American farmer's wheat? Northwest. Miller 171:544-546/ (647)Aug. 31, 1932.

TAYLOR, H. Chief of Engineers' views on lake harbor deepening (648)costs. Engin. News-Rec. 93:259. Aug. 14, 1924. Comments:

"Beyond any question, the St. Lawrence, sooner or later, will be developed for power and navigation purposes. The demand for the river's power resources eventually will become so insistent that it cannot be resisted.

"'When the river is developed for power purposes, the added cost of the navigation project would be such a small additional amount that no one can believe the river will be developed for power purposes only. The two are certain to go hand in hand. "

TEN EYCK, P. G. The economy of water transportation from the Great Lakes. Port of New York 10:21-23. November 1931. (649)

-- Waterway connections with the Atlantic. Natl. Waterways 11:31-33. March 1932. (650)

THOM, A. P. St. Lawrence shipway "economically unjustified": association of railway executives declares there is no present or prospective need for this "duplicate service." (651)Railroad Data 11:2. Nov. 18, 1932.

St. Lawrence waterway opposed. Railway Age 93:701-702, 708. Nov. 19, 1932. (652)Comments:

The views of the railways by the general counsel of the Association of Railway Executives before the Senate Foreign Relations Committee on Nov. 14.

THOMPSON, RALPH. The St. Lawrence waterway treaty. Current Hist. 36:693-696, map. September 1932.

(653)

Comments:

The author holds that "the project of a deep waterway to the heart of the continent seems eminently logical."

THOMPSON, S. A. Comparative costs of transportation by highways, railways and waterways. Pan-Amer. Mag. 36:231-234.

December 1923.

(654)

THOMSON, LESSLIE R. The St. Lawrence waterway and the Canadian railways. Queen's Quart. 36:729-738. Autumn 1929.

(655)

The effect of the proposed St. Lawrence waterway on the prosperity of the Canadian railways. "If this analysis is near the mark,... it appears that the favourable effects obviously will more than counterbalance the adverse effects on the Canadian railways likely to be brought about by the proposed St. Lawrence Deep Waterway."— p. 738.

Reviews:

Scc. Sci. Abstracts 2:7917 (June 1930)...

THOMSON, LESSLIE R. The St. Lawrence problem; some Canadian economic aspects. Engin. Jour. 12:189-304, 348-349, illus., maps. April, May 1929.

(656)

Contents to be noted:

Introduction, p. 189-190.

Findings and summary, p. 191-200.

Aspects common to transportation and power, p. 200-214.

Transportation aspects, p. 215-255.

Power aspects, p. 255-282.

Acknowledgements, p. 282-283.

Bibliography, p. 283-288.

Indices, p. 288-290.

Appendices, p. 290-299.

Discussion, p. 300-304.

Comments:

The author submitted this exhaustive analysis from the engineer's point of view, before the annual general and general professional meeting of the Engineering Institute of Canada, Hamilton, Ont., Feb. 14, 1929, "as an attempt to present from the Canadian point of view a few of the fundamental economic factors involved in the St. Lawrence problem."

Also printed separately.

See also the articles by Lesslie R. Thomson listed in Citation 89.

THOMSON, LESSLIE R. Continued.

Reviews:

"Le Problème de l'Aménagement du Saint-Laurent," in Génie Civil. 95:465-467, map (Nov. 9, 1929). Social Sci. Abstracts 2:7916 (June 1930).

Some economic aspects of water transportation. Conference on Canadian-American Affairs held at the St. Lawrence University, Canton, New York, June 17-22, 1935. p. 160-170. Ginn & Co. 1936.

(657)

Comments:

A summary of a paper on the Great Lakes-St. Lawrence system and the proposal to create by international action a St. Lawrence deep waterway. The entire text, together with maps, diagrams, tables, and bibliography, is available in the libraries of the St. Lawrence University, Queen's University, Kingston, and the Carnegie Endowment for International Peace, New York City.

TIMES (LONDON). St. Lawrence waterway; Help to Empire trade; Divided views on the treaty. Sept. 24, 1932, p. 11.

(658)

TIMMIS, HENRY. The St. Lawrence River- the Mid-West's economical and natural route to Europe. Port of New York 5 (4):8, 10, illus. April 1926.

(659)

Comments:

An editorial states that the author understands the waterways from the upper lakes to the Cape Breton coast and has studied their traffic and travel for many years. - p. 15-16.

TORONTO BOARD OF TRADE JOURNAL. How waterways have affected history; Will the St. Lawrence waterway project do for Canada what other waterways have done for many other countries? November 1934, p. 3.

(660)

The St. Lawrence development, and what it will mean to Canada. August 1930, p. 7-9.

(661)

TRAFFIC WORLD. The St. Lawrence canal. 53:83-85, 108, 262-263. Jan. 13, 20, Feb. 10, 1934.

(662)

TRAFFIC WORLD. St. Lawrence seaway. 50:984-988, 1143-1145. Nov. 19, Dec. 10, 1932.	(663)
St. Lawrence waterway. 52:509-510. Sept. 23, 1933.	(664)
St. Lawrence waterway project. 33:752, 754. Mar. 22, 1924. Comments: Excerpts from official correspondence concerning the project.	(665)
[TRAILL, J. J.] St. Lawrence development. Canad. Engin. 46:352. Mar. 18, 1924. Comments: Editorial account of the St. Lawrence River development by J. J. Traill of the Hydro-Electric Power Commission of Ontario at a meeting of the Ontario section of the American Society of Mechanical Engineers on Feb. 20.	(666)
UNITED STATES DAILY (Washington, D. C.). Engineers urge waterway plan for St. Lawrence; joint board recommends project for connecting lakes and Atlantic be carried out; estimates given for power development; cost placed up to \$120,200,000 for channel improvement and \$423,600,000 including power plants. 1:3291, 3315, 3346, 3362, 3394, 3401. Nov. 26-Dec. 3, 1926.	(667)
New York's policy on St. Lawrence seaway explained. Aug. 9, 1932, p. 1.	(668)
Objection made to St. Lawrence seaway project. Nov. 15, 1932, p. 1, 3.	(669)
VAN CLEEF, EUGENE. The Great Lakes waterway as a civic and national asset. Jour. Geogr. 18:18-24. January 1919. Contents to be noted: Introduction; the evolution of commerce on the Lakes; steam on the Lakes; competition of the railroads;	(670)
hibliographical references	

VAN DEUSEN, EDGAR A., and A. J. P. WILSON. What price the St. Lawrence seaway? Barron's 14 (3):3, 6-7, illus., map. Jan. 15, 1934. Comments: The authors are consulting engineers who have specialized in power and transportation problems from both technical and economic phases. Con.	(671)
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VINING, C. The St. Lawrence waterway. Mich. Engin. 48:6-9, 6-18. September, December 1930.	·(673)
VOGELSANG, ALEXANDER T. Power development of the St. Lawrence River. Elect. Rev. 76:348-350. Feb. 28, 1920. Comments:	(,674,)
A summary of hydro-electric power possibilities in connection with the proposed waterway by the first Assistant Secretary of the Interior. Condensed with the title, "St. Lawrence Power," in Power 51:397-398 (Mar. 9, 1920).	
White coal for black. Nation's Business 8 (4):26, 28, 30, illus. April 1920. Comments: The water-power phase of the Great Lakes-St. Lawrence waterway project. "Any plans for developing the river for navigation should make provision for the maximum development of the energy that it will afford."	(675)
W., F. C. Down the St. Lawrence waterway. Engin. News-Rec. 87: 155-156. July 28, 1921. Comments: An excursion of the Great Lakes-St. Lawrence Tidewater Association from Niagara down the St. Lawrence to Quebec to view the potential waterway and power development.	(676)
W., F. X. The breaking up of a political honeymoon. Public Utilities Fortnightly 13:667-671. May 24, 1934. Comments: A summary of newspaper comments on the Senate's failure to ratify the St. Lawrence treaty. - 137 -	(677)

W., F. X. Uncle Sam competes with the railroads. Public Utilities Fortnightly 11:232-234. Feb. 16, 1933. Comments: A summary of the following articles: Editorials in Wall Street Journal, Sept. 10, 29, 1932; "Ashburn and Waterways," Traffic World, Sept. 10, 1932; Editorial in New York Sun, July 19, 1932. "The St. Lawrence Seaway," Chicago Tribune, Sept. 25, 1932.	(678)
[WAGNER, ROBERT F.] Minority report opposes St. Lawrence treaty; Senator Wagner objects to wasteful duplication of transporta- tion facilities. Railway Age 96:75-77, 82. Jan. 20, 1934. Contents to be noted: Summary of conclusions; inadequacies of economic studies supporting the treaty; cost of the navigation project; overestimates of available American traffic; waterway not needed to relieve traffic congestion; the effort to incite competition contrary to present transportation policy.	(679)
WALDRON, WEBB. America's outlet to the sea. Century Mag. 106: 622-630. August 1923.	(680)
WEEKLY UNDERWRITER. St. Lawrence river worries underwriters. 131:1202. Dec. 29, 1934.	(681)
WHEATON, HARRISON H. Analysis of the proposed St. Lawrence waterway treaty; contractual and financial liabilities assumed by the United States thereunder. Chamber of Commerce of the State of N. Y. Monthly Bull. 25:80-85. June 1933.	(682)
The St. Lawrence treaty. Traffic World 53:314-315.	(683)
WHITBECK, FLORENCE. The proposed Great Lakes-St. Lawrence deep waterway. Jour. Geogr. 21:57-65. February 1922. Contents to be noted: The present waterway; United States experience with waterways; reasons advanced for the St. Lawrence deep waterway; will the proposed waterway be another disappointment?; lake and ocean vessels compared; water power development; conclusion.	(684)
Comments: An abridgement of a thesis (M.A.), University of Wisconsin, June 1921. Extracts from the article are reprinted in Citation 3, p. 69-73.	

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WHITBECK, FLORENCE. The St. Lawrence river and its part in the making of Canada. Amer. Geogr. Soc. Bull. 47:584-593. August 1915. (685)Contents to be noted: Introduction, p. 584-585. Physical aspects, p. 585-587. Historical aspects, p. 587-590. Commercial aspects, p. 590-593. WHITE, ARTHUR V. Canada's heritage in the St. Lawrence River. (686)Elect. Werld 72:1216-1217, map. Dec. 28, 1918. Comments: Excerpts from an address delivered before the Electric Club of Toronto, Nov. 22, 1918, by a consulting engineer of the Commission of Conservation, Ottawa. "Canada's heritage in the navigability of the St. Lawrence, in a word, may be summed up that deep-draft navigation from the Great Lakes to the sea involves, absolutely, the treatment and canalization of the St. Lawrence River as a unit." St. Lawrence project discussed. Canad. Engin. (687)637-638. June 28, 1927. Comments: Extracts from an interview with Arthur V. White, consulting engineer to the Ontario Hydro-Electric Power Commission, by the Washington, D. C. correspondent of the Toronto Globe, as reported in the Globe. Careful study of all economic data is urged. WHITING, DANIEL. The St. Lawrence seaway-power project. Editorial Research Repts. 2:67-83. Aug. 3, 1932. (688)WICKSTEED, HENRY K. St. Lawrence development scheme (letter). Canad. Engin. 46:325-326. Mar. 11, 1924. **♦**689) Comments: An excerpt from this negative view is given in Citation 4, p. 110-112. WILCOX, E. V. New routes to market; high transportation costs cause farmers to consider water for long hauls. Country Gent. 86 (15):3-4, 33, illus. Apr. 9, 1921. (690)Comments: "Wherever I went in the Corn Belt I heard the emphatic

reaffirmation of the one central idea regarding cheap and

WILCOX, E. V. Continued.

adequate freight routes or trade channels leading from the Corm Belt to the world's markets. Everybody was thinking of the Mississippi and the Great Lakes water routes, and everybody, including railroad officials, was behind the proposal to put both these routes in practical operation, thus giving a water-belt route round the eastern third of the United States."

WILCOX, UTHAI VINCENT. Progress of America's inland waterways. Current Hist. 34:68-72. April 1931.

(691)

Comments:

"There is, undoubtedly, something approaching a trementous national mobilization of resources in the present movement in America to use the rivers and canals. It is primarily a drive for greater world power, for economic advantage, for a maintenance of high living standards, through a utilization of our resources. The possession of a network of great natural waterways, the advance of engineering science which renders feasible their completion to the cheapest form of transportation for primary goods, has caught the attention of the national mind. It is a bid to set in motion powerful economic forces that will tend to better distribution of our increasing population and will bring about the wider diversification of our industries."— p. 72.

[WILLIAMS, FRANK M.] State engineer condemns St. Lawrence project-calls for action on water power questions. Com. and Finan. Chron. 112:332-333. Jan. 22, 1921.

(692)

Comments:

Excerpts from the annual report of the State Engineer submitted to the New York State Legislature on Jan. 12, 1921.

"Common reasoning would indicate that there must be a limit in distance beyond which it would not be profitable to take ocean-going vessels at greatly reduced speeds, increased insurance rates and constantly mounting costs. Just what this limit is has not been determined, but it is fair to assume that it would be reached more quickly on a route subject to the storm and ice hazards surrounding the mouth of the St. Lawrence with its comparatively short navigation season than it would be in the case of a route located under climatic conditions which would justify all year round navigation."

[WILLIAMS, FRANK M.] Why the St. Lawrence canal should not be built. Greater New York 11 (1):9-11. Jan. 2, 1922. (693)

Comments:

Prepared for the New York Merchants' Association, the subject is discussed under the following headings: misleading propaganda; physical conditions adverse; estimate of cost too low; operating expense; difference of draught; the handling of cargo; freight rates; the question of speed; the lake harbors; power belongs to the State; State now able to develop power; use the barge canal.

- WILLIAMS, G. S. Great Lakes-St. Lawrence waterway and Mississippi River. Mech. Engin. 47:7-20. June 1929. (694)
- WILSON, HOWARD B. Economic objections to the St. Lawrence waterway project. Public Utilities Fortnightly 13:199-206, 267-274. Feb. 15-Mar. 1, 1934. (695)

A discussion of what the author considers the uneconomic features of both the navigation and power phases of the project. He maintains that the most fundamental reason for opposition should be the fact that cost of transportation over the waterway would be higher than by rail instead of lower, as the proponents of the treaty claim.

WILSON, P. W. The great St. Lawrence waterway project. World's
Work (London) 42:287-294, illus. August 1923. (696)
Comments:

"Why Canada and the interior of the United States want it, and what is known of its practicability."

WISHART, R. W. The St. Lawrence-Great Lakes ship canal.
Administration 4:429-436. October 1922. (697)
Comments:

The author was formerly assistant to the general manager of the Insular Line. For a reply, see R. S. MacElwee, "The Great Lakes-St. Lawrence Ship Channel," in Administration 5:284-290 (March 1923).

WOLMUTH, E. W. The St. Lawrence seaway. Jour. Indus. and Finance 6:4-6. October 1932. (698)

WOODLOCK, THOMAS F. The St. Lawrence waterway project; taxpayers to lose regardless of the costs allocation— the issue of waterways vs. power. Barron's 12 (36):8. Sept. 5, 1932.	(699)
Taxpayer to lose; Sure to be shot in purse regardless of costs allocation for St. Lawrence; Waterway vs. power. Wall Street Jour. Aug. 19, 1932, p. 1.	(700)
Unwatered facts; Bursts of oratory may conceal the limited market for St. Lawrence power. Wall Street Jour. Aug. 26, 1932, p. 1.	(701)
Waterway waste; St. Lawrence cost would equal that of railroads with 30 times its capacity. Wall Street Jour. Aug. 12, 1932, p. 1.	(702)
WORLD PORTS. St. Lawrence canal scheme recommended. 10:41-48. February 1922.	(703)
WORLD'S WORK (N.Y.). St. Lawrence waterway (Editorial). 55: 131-132. December 1927.	(704)
Will the Atlantic seaboard be moved into the Mississippi Valley? (editorial). 44:356-358. August 1922.	(705)
WYER, RAMON. Fact and fallacy on the St. Lawrence. Harvard Business Rev. 13:344-352. Spring 1935. Comments: A member of the Student Editorial Board of the Harvard Business Review concludes that "the case for the St. Lawrence Development seems to rest upon the unsound foundation of fallacious economics. Although the proposed Waterway would provide the Middle West with 'cheap' transportation	(706)
(since it would be upon a tolls-free basis), an annual governmental subsidy of \$21,500,000 would be necessary. The enormous savings to electric power users which are predicted as a result of the harnessing of St. Lawrence power are without any basis of fact." Reviews: "Fallacious Economics," in New York Sun, Apr. 20, 1935, p. 20. E. S. B., "The St. Lawrence Project versus Commission Regulation," in Pub. Utilities	
Fortnightly 16:215-218 (Aug. 15, 1935).	

WYER, SAMUEL S. Study of St. Lawrence waterway project...prepared for Fuel-Power-Transportation Educational Foundation.

Reprinted August 1931. 31 p., illus., maps. Columbus, Ohio. 1931.

(707)

Contents to be noted:

General features of St. Lawrence waterway project, p. 3-9. Proposed power and navigation improvements, p. 11-15. Effects of Chicago's water diversion, p. 16-17. Preservation of scenic beauty at Niagara Falls, p. 18-23. Economic aspects, p. 24-26.

Comparisons of Canadian and United States conditions, p. 27-31.
Comments:

"The... study gives the salient facts of the not generally available voluminous report of the Joint Board of Engineers appointed by the Governments of the United States and Camada."

YARHAM, E. R. The St. Lawrence waterway. United Empire 23: 431-435, illus., map. August 1932.
Comments:

(708)

A history of the project and a description of the physical formation of the Great Lakes-St. Lawrence system as constituted at present.

GEORGIAN BAY CANAL

BELL, J. J. The Georgian Bay canal. Engineer 126:527-528, map. Dec. 20, 1918.

(709)

COLQUHOUN, ARCHIBALD R. The Georgian Bay ship canal. United Empire 1:872-878, maps. December 1910. Contents to be noted:

(710)

The question of finance.

The present conditions.

U. S. competition.

The problem to be solved.

Main features of canal.

Water powers.

The objective.

Growing importance of Montreal.

Superiority of proposed route.

The urgency of the canal.

COMRIE, MARTIN C. The Georgian Bay ship canal. Scot. Geogr. Mag. 26:25-30, maps. January 1910.

(711)

A good summary of the facts on the proposed Georgian Bay ship canal based on the 1909 report of the Canadian Department of Public Works on this project.

"The proposed Georgian Bay Ship Canal is essentially a river and lake canalisation scheme, and would utilize natural waterways, which fortunately exist almost in a continuous line from Georgian Bay on Lake Huron to Montreal, the most inland and most important of the Canadian ocean ports. A straight line drawn through Montreal and Sault St. Marie has a direction almost due east and west, and follows closely the Ottava River and Lake Nipissing, which thus furnish the most direct and shortest route from Lake Superior to a seapert. This route, if it can be made navigable for large lake freighters, appears to be the natural outlet for all the commerce of the west seeking transport through Lakes Superior and Michigan to the nearest coean port."

DAVIS, ALLAN ROSS. Deep waterways from the Great Lakes to the sea. Engin. Mag. 13: 380-391, illus. June 1897.

(712)

Comments:

A brief discussion of the proposed Montreal, Ottawa, and Georgian Bay, and the Hurontario canal routes and an extensive discussion of the Trent canal.

ENGINEERING NEWS. Traffic routes from the Lakes to the seaboard. 76:604-605, illus. Sept. 28, 1916.

(713)

Comments: Summ

Summary of a Canadian report on the Georgian Bay Canal question and an interesting diagram of the eastward movement of Canadian wheat in 1913.

FULLERTON, AUBREY. Straightening out the Great Lakes. Tech. World Mag. 19: 755-757, illus. July 1913.

(714)

Comments:

The Georgian Bay Canal as a means of overcoming the long bend around southwestern Ontario. The map shows the route vessels will take when the canal has been completed.

HAMILTON, LOUIS. Die kanadischen Wasserstrassen (Mit besonderer Berücksichtigung des Georgian-Bai-Kanals, eines Konkurrenten des Panamakanals). Marine-Rundschau 1913: 1431-1441

(715)

Comments:

An uneven description of Canada's facilities for transportation by water. The author advocates strongly the building of the Georgian Bay Canal and notices the proposal to build a waterway between Edmonton and Winnipeg and suggests the possibility of a water route between Winnipeg and Lake Superior.

KERRY, J. G. G. The Georgian Bay ship canal. Engin. Mag. 36:581-591, 792-799, map. January-February 1909. Comments:

(716)

Same condensed under the title, "Canada's New Inland Waterway Project," in Rev. of Reviews 39: 747-749, map (June 1909).

In the first article, the author reviews the history of the Georgian Bay ship-canal project and outlines the general features of the plans for the waterway; in the second, he treats in somewhat fuller detail the controlling problems of location and water-supply for the summit level, and discusses the economic and financial elements of the

KERRY, J. G. G. Continued.

proposition. His conclusion is that the undertaking is unquestionably wise in the interest of the expansion of agricultural, industrial, and mining activity throughout a great section of the Canadian West.

MCDONALD, J. A. Completion of the surveys for the Montreal, Ottawa and Georgian Bay ship canal. Engin. News 58: 370-371. Oct. 3, 1907.

(717)

Comments:

A summary of the government survey of the Georgian Bay route.

MCLEAN, S. J. The Georgian Bay canal. North Amer. Rev. 190: 642-651. November 1909.

(718)

Comments:

"The project for a canalized waterway from the Upper Lakes by way of the French River, Lake Nipissing and the Cttawa River to Montreal attracted attention as early as 1845. In 1856 and in 1860 surveys were made. Undoubtedly this route has great advantages in point of distance."— p. 644.

PERKS, ROBERT W. The Georgian Bay ship canal; proposed route and economic importance to Canada and Great Lakes. Engin.

Mag. 47:93-95, map. April 1914.

Comments:

(719)

The article is from the Royal Society of Arts Journal.

LAKE LEVELS PROBLEM

AMERICAN JOURNAL OF PUBLIC HEALTH. The Chicago drainage canal. 15:241-242. March 1925. Comments: A clear and concise editorial statement of the factors involved in the controversy over the canal.	(720)
AMERICAN WATER WORKS ASSOCIATION JOURNAL. United States Supreme Court decision on Great Lakes levels controversy. 21:550-553. April 1929.	(721)
BEAUBIEN, DE G. Chicago diversion imperils shipping. Canad. Engin. 50:547. May 4, 1926.	(722)
BECK, ADAM. Enormous loss results from Chicago diversion. Canad. Engin. 45:255-256, 259. Aug. 21, 1923. Comments: The author is chairman of the Hydro-Electric Power Commission of Ontaric. For a discussion by Robert Isham Randelph, see 45:315 (Sept. 11, 1923).	(723)
Statements by Chicago officials refuted. Canad. Engin. 45:453-455. Oct. 30, 1923. Contents: Exceptions taken to views expressed by representatives of the Sanitary District of Chicago when in Toronto.	(724)
BIXBY, W. H. Take steps to stop lake diversion. Marine Rev. 55:297-298. August 1925.	(725)
BRUCE, W. G. Diversion into Chicago drainage canal. Canad. Engin. 46:147-149, 165-167. Jan. 15, 22, 1924. Comments: Analysis of political and economic conditions surrounding the diversion of water at Chicago and arguments against the action of the Sanitary District.	(726)

BUSFIELD, J. L. Chicago drainage canal situation. Canad. Engin. 50:424-426. Mar. 23, 1926.	(727)
[CAMPBELL, C. LORME.] New water supply for Great Lakes. Power 63:464-465, map. Mar. 23, 1926.	(728)
A project outlined to the Chicago Chapter of the Izaak Walton League of America by a Canadian engineer and railway builder, which is claimed will solve for all time the lake-level problem, eliminate need for dredging, and produce over 1,000,000 hp.	
Plan to restore lake levels. Conad. Engin. 49:438, map. Oct. 6, 1925.	(729)
The proposal to divert water from Albany River to Lake Nipigon and on to Lake Superior by building a tunnel through the height of land.	
Reviews: G. B. Snow, H. K. Wicksteed, and Ralph Keemle, 49:465-525 (Oct. 13, Nov. 3, 1925).	
CANADIAN ENGINEER. Canada protests Chicago diversion. 46:609. June 10, 1924.	(730)
Chicago diversion hearings adjourned. 46:575. June 3, 1924.	(731)
Chicago diversion illegal. 48:133. Jan. 13, 1925.	(732)
Chicago diversion strenucusly opposed. 46:383. Apr. 1, 1924.	(733)
Chicago vs. two nations. 46:485-486. Apr. 29, 1924.	(734)
Chicago's abstraction before U. S. Supreme Court; Hughes report. 58:107-110. Jan. 7, 1930.	(735)

CANADIAN ENGINEER. Chicago's abstraction before U. S. Supreme Court; Opinion of the Court. 58:553-555. May 6, 1930. Comments: Excerpts in Engin. News-Rec. 104:696-697 (Apr. 24, 1930).	(736)
Chicago's abstraction opposed. 48:399. Apr. 14, 1925.	(737)
Conference on water diversion; delegation from Sanitary District of Chicago visits Toronto. 45:357-358. Sept. 25, 1923.	(738)
Decision against Chicago abstraction; excerpt from opinion. 56:241-244. Feb. 19, 1929.	(739)
Detroit protests diversion; city council strongly opposed to diversion of water from Great Lakes to Chicago drainage canal. 47:536. Nov. 25, 1924.	(740)
Diversion of water from the Great Lakes. 45:179-180. July 24, 1923. Comments: A reply to this editorial is given by L. K. Sherman, consulting engineer, of Chicago, 45:258 (Aug. 21, 1923), and an editorial reply, 45:259, 319-320 (Sept. 11, 1923). L. K. Sherman's letter also commented on by Julian C. Smith and Henry Holgate, 45:278 (Aug. 28, 1923).	(741)
Diversion opposed by U. S. A.; U. S. Government files brief in Supreme Court opposing diversion of increased volume to drainage canal. 47:567. Dec. 2, 1924.	(742)
Great Lakes' and St. Lawrence levels. 50:519. Apr. 27, 1926. Comments: Annual bulletin issued by the Hydrographic Office of the Department of Marine and Fisheries, Ottawa, showing maximum and minimum monthly mean levels for the Great Lakes and St. Lawrence River since 1860.	(743)

CANADIAN ENGINEER. Milwaukee opposed to diversion at Chicago. 45:385. Oct. 9, 1923. (744)Ontorio legislature opposes Chicago diversion. 46:452. Apr. 22, 1924. (745)- Protests against Chicago diversion. 45:566. Dec. 11, 1923. (746)COLLIER'S. Water runs down-hill; how this habit affects a great state like Illinois. 42:23-24. Feb. 20, 1909. (747)CONGRESSIONAL DIGEST. Great Lakes water diversion cases decided. 8:62-63. February 1929. (748)Comments: "The States bordering on the Great Lakes were held to be entitled to a decree which will be effective in bringing to an end the 'unwarranted' part of the diversion of water from Lake Michigan through the Chicago River for purposes of sewage disposal...." Report on the Great Lakes water diversion controversy. (749)7:28-29. January 1928. - The Supreme Court of the United States; recent decisions of national interest: The Chicago drainage case. 4:139. (750)January 1925. Comments: "This is a bill in equity brought by the United States to enjoin the Sanitary District of Chicago, a corporation of Illinois, from diverting water from Lake Michigan in excess of 250,000 cubic feet per minute; the withdrawal of that amount having been authorized by the Secretary of War. It is alleged that the withdrawal of more, viz., from 400,000 to 600,000 cubic feet per minute, has lowered and will lower the level of the water of Lake Michigan, Lake Huron, Lake St. Clair, Lake Eric, Lake Ontario, Sault Ste. Marie, St. Mary's River, St. Clair River, Detroit River, Miagara River, St. Lawrence River, and all the harbors &c., connected

therewith, all of which are alleged to be navigable waters of the United States, and will thus create an obstruction to the navigable capacity of said waters! and that it will

congressional digest. Continued. alter and modify the condition and capacity of the above named and their ports, &c., connected with them." The decree for an injunction to go into effect in sixty days was affirmed.	
CURRENT OPINION. Chicago on the horns of a dilemma. 78:355-356, illus. March 1925.	(751)
ELECTRICAL WORLD. Supreme Court hears argument in Chicago canal case. 84:1325. Dec. 20, 1924.	(752)
ENGINEER (LONDON). The Chicago drainage canal and diversion of lake water. 148:57-58, 97, maps. July 19-26, 1929. Contents to be noted: The drainage or sewerage canal; Sewage disposal by dilution; navigation interests; effect on lake levels; the present situation.	(753)
ENGINEERING NEWS. Far reaching decision respecting the use of the Chicago drainage canal. 69:125. Jan. 16, 1913. Comments: The denial by the Secretary of War of the application of the Sanitary District of Chicago for authority to withdraw 10,000 cu. ft. per second from Lake Michigan in place of the 4,167 ft. authorized by a previous Secretary.	(754)
ENGINEERING NEWS-RECORD. Army engineers recommend restricting Chicago diversion. 96:576-578. Apr. 8, 1926.	(755)
Canada opposes further Lake diversion. 92:823. May 8, 1924.	(756)
The case for Chicago. 94:262-263. Feb. 12, 1925. Comments: An appraisal of the conclusions set forth by the Engineering Board of Review of the Sanitary District of Chicago in their book, The Technical Bases for the Recommendations.	(757)

ENGINEERING NEWS-RECORD. The Chicago drainage canal decision. 85:99. July 15, 1920.	(758)
Chicago Sanitary District issued permit to divert 8,500 secft. 94:448-450. Mar. 12, 1925. Comments: The text of the permit, tegether with the indersement	(759)
of Major Rufus W. Putnam, district engineer at Chicago. Chicago Sanitary District must stop diversion of Lake Michigan for sewage disposal. 102:146-148. Jan. 24, 1929. Comments: U. S. Supreme Court declares diversion except for navigation illegal and in defiance of Federal Government and refers the terms of the decree to Charles E. Hughes as Master.	(760)
The Chicago Samitary District situation; politics and shortage of funds combined with court prohibition of lake diversion creates desperate plight. 102:396-397. Mar. 7, 1929.	(761)
Chicago's diversion of water from the Great Lakes; a history of one of the noted cases of water diversion with state, national and international complications. 92:28-31. Jan. 3, 1924.	(762)
Civil engineers discuss problems of Niagara frontier. 101:137-139. July 26, 1928. Comments: Comments on the papers presented at the meeting of the American Society of Civil Engineers in Buffalo, N. Y., July 18-20. The regulation of Great Lake levels and conflicting interests is discussed on p. 138.	(763)
Court restricts flow of Lake to Chicago drainage canal. 84:1274. June 24, 1920.	(764)

ENGINEERING NEWS-RECORD. Decision on Lake diversion by the Chicago drainage canal. 85:129-130. July 15, 1920. Comments:	(765)
The ruling of the District Court that navigation is paramount and is impaired by flow to drainage canal.	
Diplomatic exchanges on Chicago diversion; State Department makes public latest Canadian-U. S. correspondence on drainage canal. 96:422. Mar. 11, 1926.	(766)
Dismissal of State suits against Chicago Sanitary District recommended. 99:890-891. Dec. 1, 1927. Comments:	(767)
Also in Marine Rev. 57:45 (December 1927).	
Engineer board reports on Chicago drainage canal; epitomized statement of conclusions of board of 28 engineers on Chicago sewage disposal by diversion from Lake Michigan and its effect on lake levels, water power and navigation.	
94:22-25. Jan. 1, 1925.	(768)
Editorial comment, p. 3. Criticisms by J. K. Finch, in ibid. 94:368 (Feb. 26, 1925).	
"Review Board Report, Chicago Diversion," in Canad. Engin. 48:125-128 (Jan. 13, 1925). Abstract in Power 61:40 (Jan. 6, 1925).	
Facts bearing on the Chicago Sanitary District dilemma;	
what has been and must be done to meet the situation caused by the U. S. Supreme Court decision, with a bit of historical background. 102:440-442. Mar. 14, 1929.	(769)
Hearing on Chicago diversion continued before special master. 102:688-689. Apr. 25, 1929.	(770)
Supreme Court hears lakes diversion case argument. 93: 1010. Dec. 18, 1924.	(771)

ENGINEERING NEWS-RECORD. Supreme Court restricts Chicago drainage diversion; text of unanimous decision. 94:110-112. Jan. 15. 1925. (772)Comments: Abstracts in Elect. World 85:116 (Jan. 10, 1925), and Power 61:81 (Jan. 13, 1925). Supreme Court rules Chicago diversion of Lake Michigan illegal; decision states water cannot be turned to another basin except for navigation. 102:116. Jan. 17, 1929. (773)Text of Supreme Court decision in Chicago lake diversion case. 104:696-697. Apr. 24, 1930. (774)ENGINEERING RECORD. Setback for the Chicago drainage canal. 58-59. Jan. 18, 1913. (775)Comments: The refusal of the Secretary of War to permit Chicago to increase the withdrawal of water from Lake Michigan. "The more important consideration, ... as this journal has consistently pointed out for many years, is that any greater diversion of the waters of Lake Michigan into the drainage canal will cost the nation far more than the city will gain." [FORTIER, CHARLES L.] Milwaukee opposed to water diversion at (776)Chicago. Canad. Engin. 45:378. Oct. 2, 1923. Regulation of the Great Lakes and effect of FREEMAN. JOHN R. diversions by Chicago Sanitary District. Part of the Report of the Engineering Board of Review of the Sanitary District of Chicago on the lake lowering controversy and a program of remedial measures. 548 p., illus, maps. Chicago, Sanitary District of Chicago. [1927]. (777)Reviews: Ivan E. Houk, in Engin. News-Rec. 100:121-122 (Jan. 19, 1928). [FULLER, GEORGE W.] Suggests President call Great Lakes conservation (778)conference. Engin. News-Rec. 94:353. Feb. 26, 1925. Comments: Conclusions of a paper presented to the Western Society of Engineers, Feb. 19, 1925, by the consulting engineer and

chairman, Engineering Board of Review.

GOODELL, J. M. Secretary of War's concern over water waste at Chicago. Amer. Water Works Assoc. Jour. 13:556-587, map. May 1925.	(779)
HAIN, A. J. When iron floats- plenty of water is needed. Iron Trade Rev. 76:230-232, illus. Jan. 15, 1925. Comments: Supreme Court's decision pertaining to the Chicago drainage	(780)
canal and its effect on the iron and steel industry.	
[HEALY, A. F.] Effect of diversion on lake levels. Canad. Engin. 45:610. Dec. 25, 1923.	(781)
NERING, RUDOLPH. The Chicago drainage canal decision. Engin. News-Rec. 85:181. July 22, 1920. Comments:	(782)
The author was chief engineer of the Drainage Commission that recommended the canal.	
HORTON, ROBERT E., and C. E. GRUNSKY. Hydrology of the Great Lakes. Report of the Engineering Board of Review of the Sanitary District of Chicago on the lake lowering contro- versy and a program of remedial measures. Part 3, appendix 2. 432 p., illus., maps. Chicago, Sanitary District of	/ 7 07\
Chicago. 1927. Reviews: H. K. Barrows, in Engin. News-Rec. 99:967-969 (Dec. 15, 1927).	(783)
INDEPENDENT. Borrowed waters. 116:148. Feb. 6, 1926. Comments: An editorial on the Chicago drainage canal controversy.	(784)
IRON TRADE REVIEW. Profits so down, with water. 78:1089. Apr.	
22, 1926. Comments: Iron and steel companies protest against diversion of	(785)
lake waters through the drainage canal. Also in Marine Rev. 56 (5):37. (May 1926).	

JEFFERSON, MARK. Variation in Lake Huron levels and the Chicago drainage canal. Geogr. Rev. 20:133-137, illus. January 1930. Comments: "Every new or enlarged outlet of the lakes must lower the water level. But the lakes are regularly high in summer when the evaporation is greatest; and the lakes are unusually high just now when a number of old channels have been deepened and a number of new openings made. Hence none of these things is dominant. The one dominant thing that governs the height of the water is the rainfall of the season."	(786)
JORDAN, E. O. Construction and influence. Rev. of Reviews 21:56-58. January 1900.	(787)
KNOWLES, M. Withdrawal of water from Lake Michigan by the Sanitary District of Chicago, and the consequent lake lowering controversy. Engineers' Scc. West. Pa. Proc. 41:221-258, illus. July 1325.	, (788)
LITERARY DIGEST. Canada's eye on Chicago. 84:19. Jan. 24, 1925.	(789)
Chicago as a bootlegger of Canadian water. 79:26. Nov. 3, 1923.	(790)
Making off with the Great Lakes. 81:20. June 7, 1924.	(791)
New York joins the Great Lakes battle. 91:11-12. Nov. 6, 1926.	(792)
Press of the Great Lakes cities on Chicago's diversion of water. 84:7-9. Jan. 31, 1925.	(793)
Supreme Court rebukes Chicago. 100:12. Jan. 26, 1929.	(794)

M'CLURE, W. FRANK. The Chicago-St. Louis waterway. Sci. Amer. 97:209-210, illus. Sept. 21, 1907. Comments: Brief mention is made of the international question arising over the diversion of water from the lakes.	(795)
MCGILLICUDDY, O. E. Canada and the Great Lakes. Nation 122: 732-734. June 30, 1926.	(796)
MCKAY, C. Can lake levels be restored? Marine Rev. 56 (7):20. July 1926. Comments: A Canadian point of view, including the proposal that regulating works be built at the foot of Lake Ontario and in Detroit River.	(797)
MACKAY, R. A. Is Chicago draining the Great Lakes? New Republic 48:88-90. Sept. 15, 1926.	(798)
MARINE REVIEW. Keep the Great Lakes intact; Chicago must stop draining them. 56 (2):21, 58. February 1926. Comments. The convention of the Great Lakes Harbors Association in Detroit on Jan. 14-15 to discuss ways and means of preventing the continuation of the diversion through the Chicago drainage canal of 10,000 cu. ft. of water per second.	(799)
Lake diversion at Chicago must stop. 59:38-39. February 1929. Comments: Also in Power 69:150 (Jan. 22, 1929).	(800)
Will fight diversion of lake water. 55:221-222, illus. June 1325.	(801)
NATIONAL BUTTER AND CHEESE JOURNAL. Milk shipment restrictions and the Great Lakes waterway controversy. Natl. Butter & Cheese Jour. 24 (15):34. Aug. 10, 1933. Comments: Chicago's opposition to Article 8 of the waterway treaty	(802)
which fixes the amount of diversion of water, and also the restrictions regarding shipments of milk into the city which work	

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a hardship upon the dairy interests of northern Wisconsin.

OUTLOOK. Chicago's claim to lake water. 138:578-579. Dec. 10, 1924.	(803)
PEARSE, L. Sewage problem of the sanitary district of Chicago. Munic. and County Engin. 66:281-284. June 1924. Comments: Same in Engin. & Contracting (Water Works ed.) 62:74-76 (July 9, 1924).	(804)
PILLSBURY, G. B. The control of the levels of the Great Lakes. West. Soc. Engin. Jour. 32:250-262. August 1927. Comments: "It is the purpose of this paper to investigate the causes of the changes in the levels of the Great Lakes, to describe the interests affected by these changes, to discuss the possibilities and limitations of the control of lake levels and to arrive at the measures now economically justifiable in securing this control."	(805)
PORTHOUSE, WILLIAM. The levels of the Great Lakes of North America. Engineer (London) 142:218-219, map. Aug. 27, 1326. Comments: The Canadian and Chicago views in the diversion controversy.	(806)
[PUTNAM, RUFUS W.] U. 6. Army engineer at Chicago reports on water diversion. Engin. News-Rec. 33:184. July 31, 1924. Comments: Comment on and extracts from the 123-page typewritten report of Maj. Rufus W. Putnam, Corps of Engineers, U. S. A., district engineer, U. S. Engineers Office at Chicago.	(807)
RANDOLPH, ROBERT ISHAM. Chicago drainage canal. Canad. Engin. 45:317-318. Sept. 11, 1923. Comments: Comments by Henry Holgate, 45:378 (Oct. 2, 1923).	(808)
SADLER, HERBERT C. Low lake levels reduce income. 56 (7):25-26, 54. July 1926. Comments: Analysis of increased capacity by change in ship dimensions to offset loss and proposed saving in operating expense by	(809)

simplification.

SCIENCE. The level of the Great Lakes. (n.s.) 69: sup. 12. Jan. 18, 1929.

(810)

Comments:

"Offers of the City of Chicago to build compensating works to restore the levels of the Great Lakes system, affected by the withdrawal from Lake Michigan of 8,500 cubic feet per second, are feasible according to the report of Special Master Hughes, who was appointed by the U. S. Supreme Court to take the testimony..." This statement is followed by a discussion of Chicago's plans for compensating works.

SCIENTIFIC AMERICAN. The Chicago drainage canal. 82:99, illus. Feb. 17, 1900.

(811)

Comments:

"While some experts have held that the new channel will permanently lower the level of Lakes Michigan, Huron, and Erie from three to eight inches, and thus cause a corresponding reduction of from 240 to 700 tons in carrying capacity for the large vessels of the lakes, other eminent engineers have contended that the effects on the interests of navigation are immaterial (possibly 3-10 foot reduction), and even if they be considered serious, the remedy may be easily applied. The remedy involves the storing of water in Lake Superior and letting it down when needed..."

SENSIBAR J. R. How lake levels can be raised. Marine Rev. 56'(5):36. May 1926.

(812)

Comments:

Dams and controlling works at Port Huron and Buffalo are proposed.

SHENEHON, F. C. Chicago drainage canal; today and tomorrew.

Munic. and County Engin. 59:154-155. November 1920.

Comments:

(813)

Same in Canad. Engin. 39:624-625 (Dec. 23, 1920).

Plan to regulate Great Lakes level by Niagara dam. Engin. News-Rec. 84:308-313, maps. Feb. 12, 1920. Comments:

(814)

Chicago Sanitary District's proposition of removable dam in the river near Buffalo would permit maintenance of lake levels above present stages and still allow depletion for power and storage.

SMAILEY, E. V. Chicago's drainage canal. Independent 51:3292-3294. Dec. 7, 1899.	(815)
STEWART, C. Chicago diversion case status. Canad. Engin. 54: 499-500. May 1, 1928.	(816)
[STIMSON, HENRY L.] Limiting the use of the Chicago drainage canal. Engin. News 69:129-131. Jan. 16, 1913. Comments: The decision of the Secretary of War, dated Jan. 8, 1913. "The present Secretary of War now denies an application to increase the amount diverted, on the grounds that since he is convinced that further diversion would interfere with navigation by lowering the level of the Great Lakes, he would not be warranted in sanctioning the increase without authorization from Congress, however much the water may be needed; that the facts presented show no imperative need; and that an existing treaty between the United States and Canada is a further reason why no administrative officer should grant such an application against Canadian protest."	(817)
THOMSON, T. KENNARD. Chicago drainage canal. Canad. Engin. 45:278. Aug. 28, 1923.	(818)
Chicago drainage canal. Cenad. Engin. 45:358. Sept. 25, 1923.	(819)
Coal equivalent to Chicago diversion. Canad. Engin. 45:550. Dec. 4, 1923.	(820)
TREZISE, F. W. Great Lakes levels mean dollars to steel industry. Steel 98 (17):36. Apr. 27, 1936. Comments: The author is professor of engineering, Lawrence College.	(821)
WALKER, J. BERNARD. What lowered the Great Lakes; Jupiter Pluvius, not Chicago, mainly responsible for low lake levels. Sci. Amer. 135:198-199. illus. September 1926.	(822)

132:186. Jan. 26, 1935.	(823)
Comments:	
Army engineers' scheme to affect Chicago; compensating	
works to total approximately \$1,200,000.	
[WHITE, A. V.] Chicago's abstraction before U. S. Supreme Court,	
Canad. Engin. 52:179-180, 367-368. Feb. 1, Mar. 22, 1927.	(824)
	, ,
WILLIS, F. B. Great international waterway is wasted to flush	
Chicago's sewage. Marine Rev. 56:664. April 1926.	(825)
WOTMAN	
WOLMAN, A. Hughes report on the Great Lakes levels controversy.	
Amer. Water Works Assoc. Jour. 19:36-42. January 1928.	(826)

WEEKLY UNDERWRITER. Plan normal high for all Great Lake levels.

SAULT STE. MARIE CANAL

ENGINEERING NEWS. New canal and locks at "The Soo". 71:512-519, illus. Mar. 5, 1914.

Comments:

(827)

"The locks at Sault Ste. Marie, in the channel connecting Lake Superior with the lower lakes, form a feature in the inland navigation system of the Great Lakes, for at this point passes nearly 75% of all the lake traffic, while the traffic through the locks in 1912 amounted to over 72 million tons of freight. To increase the facilities for handling the traffic on the American side, a lock of exceptional size is under construction, as an addition to the two existing locks, while excavation has been commenced for a fourth lock. This constitutes a very important engineering work, both in design and construction, and is described in the accompanying article."— Synopsis.

New lock and canal at "The Soo." 71:879-886, illus. Apr. 23, 1914.

(828)

Comments:

"The construction of a ship lock 80 x 1350 ft., with concrete walls 50 ft. high, built in monolithic masses or blocks 30 ft. long, necessarily presents many special features and points of interest. This construction work is dealt with in the accompanying article, which deals also with some of the other improvements in connection with the navigation of the St. Mary's River at the 'Soo'."—Synopsis.

ENGINEERING NEWS-RECORD. Traffic in 1920 through the Sault canals. 86:958. June 2, 1921.

(829)

Comments:

The information given is based on the report of Lieut.-Col. E. M. Markham, Corps of Engineers, U. S. A.

ENGINEERING RECORD. Lake commerce through Sault Ste. Marie canals during 1912. 67:647, illus. June 7, 1913. Comments:

(830)

Notes taken from the report of Lieut.-Col. Mason M. Patrick, Corps of Engineers, U. S. A. Note the graph showing the amount of freight carried through the canal since 1865.

FAWCETT, WALDON. The Sault power canal. Sci. Amer. 82:328-329, (831)illus. May 26, 1900. The world's greatest canal; the "Soo", the water gateway of the Northwest, and its huge volume of commerce, far exceeding the tonnage that traverses the Suez canal or that enters the port of New York. Munsey's Mag. 22:834-839, (832)illus. March 1900. FOWLE, OTTO. Sault Ste. Marie and its great waterway. 458 p., illus. New York and London, G. P. Putnam's Sons. 1925. (833)Contents to be noted: Development of the water-way leading to Lake Superior, p. 431-446. Comments: A history of the exploration and settlement of Sault Ste. Marie and the State of Michigan. Reviews: G. L. Nute, in Minn. Hist. 7:162-164 (June 1926). HARPER'S WEEKLY. The enlargement of the Sault canal. 46:1948, 1954-1955, illus. Dec. 13, 1902. (834)The Soo's great power canal. 46:1396, 1422, illus. ... (835) Oct. 4, 1902. IRWIN, WILLIAM GILBERT. The development of the Sault Ste. Marie (836)canal. Sci. Amer. 86:429. June 21, 1902. Comments: "Aside from establishing Duluth as a most important point of shipping, this great canal has been responsible for the marvelous agricultural, commercial, industrial and mineral development of the great Northwest through providing cheap water transportation facilities to the Atlantic. Through the wonderful development of the iron ores the canal has been a factor in establishing the industrial prestige of Pittsburg and other iron and steel manufacturing centers. In fact, no similar expenditure of capital by any state or any nation has conferred such vast benefits to a wide area and to so extensive a population."

KEHOE, J. J. The Sault Ste. Marie ship canal. Canad. Mag. 1:589-594, illus. September 1893. KIBBEE, WILLIAM P. The busiest canal in the world. Engin. Mag. 13:600-610, illus. July 1897. (838) MARTIN, LAWRENCE. Pregressive development of resources in the Lake Superior region. Amer. Geogr. Soc. Bull. 43:561-572, illus. 1911. (839) Contents to be noted: The Sault canals and the development of Lake Superior iron mining, p. 569-572. Comments: "The cost of the Soo canals, even without tolls, is paid over and over again in...cheapness of transportation. The experditures involved in their building have been more than warranted by the enormous traffic which goes through the canals at Sault Ste. Marie. Although the season for lake transportation is limited to less than eight months, the canals at Sault Ste. Marie carry a greater tonnage than any other canals or other waterways in the world..." MILLS, JAMES COOKE. The gateway of the inland seas; the Sault Ste. Marie canal and its importance to the water-borne commerce of Canada. Canad. Mag. 38:27-35, illus. November (840) 1911. The new ship canal and locks at Sault Sainte Marie. (841) Cassier's Mag. 40:675-686, illus. December 1911. Comments: The development of the State and Government engineering works at Sault Ste. Marie, and a description of the project under construction. The new ship canal and locks of the St. Mary's River. (842)Sci. Amer. 104:546-547, illus. June 3, 1911. Comments: An account of the commerce that passes through the St.

Mary's River, and a technical description of the "construction of the longest lock in existence to accommodate the great 'Soo'

traffic."

PLUMMER, HARRY CHAPIN. The "Soo" canal; the world's busiest locks. (843) Sci. Amer. Sup. 77:40-42, illus., map. Jan. 17, 1914. Comments:

"To the fact that the existence of the great deposits of high-grade iron ore in the Lake Superior country is supplemented by the cheap transportation of that product, is due the supremacy of the United States among the iron and steelmaking countries of the world.... Dependent upon it, also, are the electrical industries, with their tremendous takings of copper, and, likewise, the consuming public of two Hemispheres, who derive their cereals from the common channel of— the Great Lakes. Thus the economic vitality of the American nation, of Canada and of old Europe, are immediately concerned in the improvements at 'the Soo.'"

RAILWAY AGE GAZETTE. Traffic through the Sault Ste. Marie canal. 54:1030. May 9, 1913. Comments:

(844)

A summary of the annual statistical report on Lake commerce passing through the canal.

SCIENTIFIC AMERICAN. Lake traffic passing the "Soo." 92:107. Feb. 4, 1905.

(845)

Comments:

The report of the United States engineering office at Sault Ste. Marie, Mich., regarding lake commorce through the American and Canadian canals at Sault Ste. Marie, Mich., and Ontario, for December 1904.

Proposed improvements at the Sault Ste. Marie canal. 84:19: Jan. 12, 1901. (846)Comments:

The proposed enlargement of the Weitzel Lock.

The Sault Ste. Marie water power canal. 87:289-290, illus. Nov. 1, 1902. (847)

Comments:

A technical description.

SCIENTIFIC AMERICAN SUPPLEMENT. The completion of the Sault Ste. Marie canal. 54:22308-22309. Sept. 6, 1902. (848) Comments:

Technical points and difficulties in its construction.

SCIENTIFIC AMERICAN SUPPLEMENT. First Sault Ste. Marie canal. 53:22042. May 10, 1902.

(849)

Comments:

An account, taken from the Mining Journal of Marquette, Mich., of the construction of the first canal at Sault Ste. Marie, Mich., which was completed in 1855.

The increased traffic of the "Soo" canals. 55:22615-22616.

Jan. 17, 1903.

(850)

THOMPSON, S. A. The busiest canals on earth. Natl. Waterways 1:167-171. April 1913.

(851)

Comments:

Excerpts under the same title in Pan Amer. Union Bull. 36:715-721 (May 1913).

An account of the traffic on the Sault Ste. Marie canals.

WADE, HERBERT T. Completing the world's busiest waterway; the fourth lock at Sault Ste. Marie. Sci. Amer. 116:202-203, illus. Feb. 24, 1917.

(852)

Comments:

A technical description.

The Sault Ste. Marie ship canals. Rev. of Reviews 53:721-724, illus. June 1916.

(853)

"At a time when there is a tendency toward well-merited criticism of Federal appropriations for River and Harber improvements in the United States, it is worth while to focus attention on at least one notable project of this nature, against which no indictment for uselessness or extravagance can lie, which has had an enormous influence on the development of internal commerce, and which is still a most valuable artery of communication. Such is the Saint Marys Falls Canal at Sault Ste. Marie, Michigan, through which passes annually a volume of freight traffic over twice as large as that going through the Suez Canal."

WILLEY, DAY ALLEN. The "Soo" ship canal system- the fiftieth anniversary of its commencement. Sci. Amer. 58:427-428, illus. June 6, 1903. (854)

WORTS, GEORGE F. The pulse of the northwest. Outlook 105:904-908, illus. Dec. 27, 1913. (855)

The traffic of the Sault Ste. Marie Canal.

WELLAND CANAL

B., A. L. Enlargement of the Welland canal. Amer. Econ. Rev. 6:693-694. September 1916. Comments: "It is expected that grain moving from the great central cereal belt of the American Continent to the Atlantic seaboard will form an important part of the traffic on the modernized waterway, although much coal and other bulky freight will pass westward."	(856)
BRIDGEMAN, J. F. The brains that levelled Lakes; the mammoth detour around the Niagara cataract is the second largest man-made river in the world. Farmer's Advocate 64:1153, 1167, illus. July 25, 1929. Comments: The history of the Welland Canal, and a description of the improvements in progress.	(857)
CANADA. DEPARTMENT OF RAILWAYS AND CANALS. The Welland ship canal; New link in the world's greatest inland waterway. Published by authority of the Hon. R. J. Manion, M. P., minister of railways and canals. 46 p., illus. Ottawa, F. A. Acland. 1932. Comments: A well illustrated and printed pamphlet to commemorate the opening of the Welland Ship Canal. Pictures and historical descriptions of the earlier Welland canals are given as well as an account of the construction and equipment of the new canal.	(858)
CANADIAN ENGINEER. Busy season on Welland canal. 48:426. Apr. 21, 1925. Comments: A technical description of sections 1, 2, 7, and 8.	(859)
Centenary of Welland canal. 57:821-822. Dec. 17, 1929.	(860)
Construction of the Welland ship canal. 53:597-603, illus. Dec. 13, 1927. Contents to be noted: History of the canal projects, p. 597-599.	(861)

CANADIAN ENGINEER. Official opening of Welland canal and review of great undertaking. 63 (7):15-17, 40, illus. Aug. 16, 1932. (862)Comments: Editorial comment, (8):20-21 (Aug. 23, 1932). - Present status of Welland ship canal. 45:501-508, illus. (863)Nov. 20, 1923. Comments: "Progress of construction work during the last three yearshistorical review of canal projects- principal construction features- twin lift locks a notable engineering work- section 8 re-located- further contracts to be let." Principal dimensions of Welland canal. 63 (20):21. Nov. 15, 1932. (864)Progress of Welland ship conal. 56:450. Apr. 23, 1929. (865)Progress on new Welland ship canal. 39:319-330, illus. (866)Sept. 9, 1920. Comments: "Estimated quantities of excavation, concrete and embankmentsreview of canal's history, purpose, design and construction, with special reference to 1919 and 1920 work- program for. next year." - Welland canal construction progress. 47:617-624, illus. Dec. 23, 1924. (867)Comments: "Centenary of first canal celebrated this year- historical review of Welland canals- progress on ship canal during the past twelve months- work proceeding rapidly on section 8principal features of remaining sections to be constructed." - Welland canal construction progress. 49:667-673; 50:642; 51:303-305, illus. Dec. 29, 1925, June 8,

Sept. 21, 1926.

(868)

CANADIAN ENGINEER. Welland ship canal nearly completed. 57:808-809, illus. Dec. 17, 1929.	(869)
Welland ship canal reviewed; outline covering principal items of work accomplished so far this year- contracts for four bascule bridges will be let. 49:144. July 21, 1925.	(870)
CAUFOURIER, P. La jonction des grands lace américains à l'Océan atlantique; Le canal Welland. Génie Civil 89:129-132, illus. Aout 14, 1926.	(871)
COOMBS, A. E. History of the Niagara peninsula and the new Welland canal. 428 p. Toronto, Historical Pub. Assoc. 1930. Reviews: Louis Blake Duff, in Canad. Hist. Rev. 12:209-210 (June 1931).	(872)
CRAICK, W. A. Construction of the Welland ship canal. Internatl. Marine Engin. 20:154-156, illus. April 1915.	(873)
CRUIKSHANK, E. A. The centenary of the Welland canal. 35 p. Welland, Ont., Welland Co. Hist. Soc. 1924. Comments: The history of the Welland canal from 1799 to 1829.	(874)
The inception of the Welland canal. Ontario Hist. Soc. Papers and Rec. (1925) 22:60-88. Comments: The beginnings of the Welland Canal, 1814-1825.	(875)
DUFF, LOUIS BLAKE, editor. The Welland ship canal. 126 p. St. Catharines, Com. Press. 1930. Comments: A history and description of the canal.	(876)
DUTTON, CHAUNCEY N. The aorta of North American commerce. Canad. Mag. 1:255-260. June 1893. Comments: A discussion of the necessity for an enlarged Welland Canal.	(877)

ENGINEER. The Welland ship canal. 144:198-199, illus. Aug. 19, 1927. (873) The Welland ship canal; [A technical description]. 122:242. Sept. 15, 1916. (879)ENGINEERING. The Welland ship canal. 121:451-454, 466, illus. Apr. 9, 1926. (880) The Welland ship canal. 127:285-287, 415-419, 430, 476-481, 537-540; 128:7-11, 101-102, 128, 129-131, 191-196, 204, 365-368, 462-465, 577-581, 668-672, 678, 697-701, 762, 763-766, 767, 774, 832-836; 129:157-159, 241-245, 336-340, 400-404, 468-470, 592-595, 663-665, 672, 725-729, 790-793; 130:63-65, 66, 131-132, 142, 285-288, 320-325, 481-483, 576-579, 588, 637-638, 766-769, 776; 131:166-169, 176, 200-201, 319-322, 380-381, 394, 440-443, 472-474, 534-536, 581-582, 594-599, 608, 613, 662-664, 691-694, 787-790, 820, 821-825, illus., maps. Mar. 8, Apr. 5, 19, May 3, July 5, 26, Aug. 2, 16, Sept. 20, Oct. 11, Nov. 8, 22-29, Dec. 13, 27, 1929, Feb. 7, 21, Mar. 14, 28, Apr. 11, May 9, 23, June 6, 20, July 18, Aug. 1, Sept. 5-12, Oct. 17, Nov. 7, 21, Dec. 19, 1930, Feb. 6-13, Mar. 6, 20, Apr. 3-10, 24, May 8, 22-29, June 19-26, 1931. Comments: The history, design, and construction of the canal. The Welland ship canal. [An illustration.] 139: [special jubilee sect.] 38. May 3, 1935. (382) ENGINEERING AND CONTRACTING. Progress on the Welland canal. (General Contracting no.) 64:430. Aug. 19, 1925. (883) ENGINEERING NEWS. The new Welland ship canal; [A technical (884)description]. 70:598-602, maps. Sept. 25, 1913. ENGINEERING NEWS-RECORD. New Welland ship canal- built for (885) deep-draft vessels. 105:356-362, illus. Sept. 4, 1930.

Proposed Welland ship canal. 68:35-36, map. ENGINEERING RECORD. July 12, 1913. (886)

FARMERS! ELEVATOR GUIDE. The Welland canal opens. 26 (7):9, illus. July 1931.

(887)

Comments:

The relation of the canal to the St. Lawrence project.

FARROWS, BERNARD. Circumventing Niagara Falls; a new Welland canal necessitated by increasing traffic. Sci. Amer. Sup. 78:387-388, illus. Dec. 19, 1914.

(888)

Comments:

"The bulk of the freight traffic to be handled on the new waterway will be grain, though there will be enormous quantities of coal and other bulk freight destined for upper lake ports. According to the liberal Canadian regulations, the canal will be free to all vessels using it. It will be of great benefit to the United States as well as to the Dominion of Canada."

FAY, FREDERIC H. Effect of new Welland ship canal on freight movement between the Great Lakes and seaboard. Natl. Rivers and Harbors Cong., Proc. (1924) 20:31-41. (889) Contents to be noted:

Commerce of the Great Lakes.

Welland canal- past and present.

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